

Pace University, History of Psychology at

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Basic History of the Department

This is a brief history of the emergence of psychology at Pace University during the twentieth century and its subsequent development into one of Pace University's leading academic departments. Two distinct time periods can readily be delineated in considering this history.

Pace University began when two brothers, Homer St. Clair Pace and Charles Ashford Pace, in 1906, formed the partnership of Pace & Pace to help prepare candidates for the difficult New York State CPA examination. They rented an office and one classroom in Horace Greeley's Tribune Building, on Publishers Row, at 154 Nassau Street. There they taught accounting principles that were necessary to become a CPA (Weigold 1991).

In the early part of the century, Pace Institute was seen as a professional school that offered scientific instruction in Accountancy and Business Administration. With increased enrollment, the Institute leased two entire floors and part of a third floor in the Transportation Building at 225 Broadway. There it started to organize itself into six schools: Accountancy Practice; Accountancy and Business Administration; Marketing, Advertising and Selling; Secretarial Practice; Shorthand Reporting; and Credit Science. Within the school of Marketing, Advertising and Selling (in *General Bulletin 1933–1934*) personality development first appears in course titles: specifically, Business Speaking and Personality Development, Selling Technic[sic] and Personality Development – Part I and Part II, and Executive

Technic[sic] and Personality Development. Thus, before there were direct courses in the field of psychology, the psychology of personality was incorporated in business-related courses.

The first two psychology courses appeared in the *Pace Institute General Bulletin 1934–1935*, listed under the School of Marketing, Advertising, and Selling: specifically, Psychology, Part I (Elementary) and Psychology, Part II (Applied). The first course was to develop “on the part of the student an understanding of mental reactions to appeals made to human emotions, to reason, to will, to desire, to habit, to imagination, to vanity, and the like.” While, the second course applies concepts from Part I to developing “a practical working tool in the solution of problems encountered in advertising and selling that are the result of the human element as contrasted with mere mechanical and technical difficulties.” The person who taught these courses is found in the Bulletin under Faculty (name, degree, courses): “J. Stephen Bloore, M. A. . . English, Public Speaking, Psychology.”

In 1935, Pace Institute received its first charter from the New York State Education Department, and as such began operating as a not-for-profit educational institution. In 1948, Pace Institute became a college and its name was Pace College. In the new *Pace College General Bulletin 1948–1949*, George W. Fraser (Rutgers) is listed as the Psychology Chairman.

Since few records survived George Fraser's tenure, little is known of his role as Psychology Chairman. There was no space devoted just to the Psychology Department at that time. Faculty shared a large room in the Transportation Building. Considering that there were other faculty teaching Psychology at time, he was, in addition, to teaching, administratively responsible for all Psychology courses and faculty.

Mention of a Psychology Major appears in the *Pace College General Bulletin 1950–1951*. Course requirements listed included: Principles of Psychology I-II,

Test and Measurements, Child Psychology, Applied Psychology, Industrial Psychology, Social Psychology, Abnormal Psychology, Human Relations, and Mental Hygiene. The Psychology faculty listed were George W. Fraser (Litt.B., Ph.D.), Associate Professor of Psychology, Psychology Chairman; Robert H. DeJorio (B.B.S.) Psychology; Paul Echandia (B.S., M.S., M.A.), Assistant Professor of English, Speech, Psychology; Seymour Levy (B.S.S.) lecturer in Psychology; and Joseph P. Searing, Jr. (B.A.) Psychology. It was at this time that the Psychology Chairman, George W. Fraser, resigned from his position at Pace College. Administrative responsibilities were then taken over by the Social Science Department. This ended the first period of Psychology at Pace University.

In 1951, Pace College purchased the New York Times Building at 41 Park Row. In the spring of 1959, students and faculty began using all 16 floors of the building. This space was not sufficient, and in the early 1960s Pace College bought 150 Nassau Street (Weigold 1991).

In 1962 Dr. Thomas J. McShane (Fordham) was designated chairman of a newly formed Department of Education and Psychology. He had served as an adjunct faculty member from 1953 to 1958. His background included work with the FBI, from 1941 to 1961, as a polygraphist. Under his leadership, the Psychology major became a B.A. degree program in 1963 and produced its first three graduates in 1966: Jerrold Norman Stevens, Allen David Warmbrand, and Edward Jerome Zarow. At this point in time the School of Education was established, the Psychology Department remained under the School of Arts and Sciences, and had its faculty offices located on the ninth floor at 150 Nassau Street.

The *Pace College General Bulletin 1963–1965* gives a glimpse of Psychology as it started in the 1960s. The courses offered were: Principles of Psychology, Abnormal Psychology, Psychology of Business and Industry, Psychology of Personal Adjustment, Child Psychology, Psychology of Adolescence, Advertising Psychology (2 points), and Psychology of Learning I and II (2 points each). The faculty who taught them were Thomas J. McShane (Ph.D., Fordham), Professor of Education and Psychology, Chairman, Education and Psychology; Paul Echandia (M.S.Ed, Fordham, M.A., Columbia), Associate Professor of Psychology; Melvin

B. Swartz (Ph.D., NYU), Associate Professor of Psychology. Adjunct faculty were Raymond F. Levee (Ph.D., Fordham), Adjunct Assistant Professor of Psychology and Robert C. Oliver (M.A., NYU), Adjunct Assistant Professor of Psychology.

In 1969, a chapter of Psi Chi, the National Honor Society in Psychology was established. Faculty advisors for the society have been Drs. Carmine Casella (start date: February 1969); Thomas McShane (start date: July 1981), Janice Jackson (start date: April 1982), and Mercedes McCormick and Florence Denmark (start date: April 2008).

Specialized Psychology Laboratories were created on the 13th floor of 41 Park Row to meet the needs of the nascent department. The Experimental Laboratory was based on the Fordham University model (Dr. Frances Delahanty (Fordham) personal communication, January 31, 2002). The laboratory consisted of five rooms and 12 cubicles. In addition, a “Rat” Laboratory was created from an unused animal laboratory in the elevator room on the 17th floor (Dr. John J. Mitchell (Catholic U) personal communication, May 11, 2010). In order to analyze data, there was a calculator laboratory, using Merchant calculators, located on the 11th floor at 41 Park Row.

A Psychology Newsletter, *Psych Eye*, was created and first published in November 1972. Dr. Paul Echandia (NYU) was the editor. Upon Dr. Echandia’s retirement in 2005, Dr. Richard Velayo (University of Michigan) assumed the helm. The latest issue was Volume 21, no 2.

In 1972, a 60-credit M.S.Ed. degree featuring state certification as a school psychologist became part of the curriculum. This program was initiated September 1973, the year Pace College became Pace University, and graduated its first students in June 1975.

In 1979, Pace University became the first university in New York State to get approval to offer the Doctor of Psychology (Psy.D.) degree. This new degree was implemented during Dr. Thomas McShane’s tenure as Department Chairman and represented the hard work and dedication of the full-time faculty: Dr. L. Bart (St. John’s), Dr. C. Casella (Michigan State U), Dr. P. Echandia, Dr. J. Herman (NYU), Dr. J. Jackson (Fordham), Dr. J. Mitchell (Catholic U), Mr. R. Oliver, Dr. M. Swartz, and Dr. I Wentworth-Rohr (NYU). The first two Doctoral Projects were completed in 1982

under the direction of Dr. John J. Mitchell and Dr. Jack Herman: Diane W. Bauman and Daniel B. Dunn

In the early 1980s, the 13th floor was renovated to create office space for psychology faculty and staff. This is the final move of the department at the end of the twentieth century: from the 9th floor at 150 Nassau Street to the 13th floor at 41 Park Row.

The Psychological Service Center (Clinic) was established in 1984 on the first floor at 41 Park Row. It was later dedicated to Thomas J. McShane and renamed The Thomas J. McShane Center for Psychological Services. In 2002 it was moved to the fifth floor at 156 William Street.

In 1988, Florence Denmark (University of Pennsylvania) became the first Robert Scott Pace Professor and Chair of the Psychology Department. She is best known for her research on women's leadership and leadership styles and the interplay between status and gender. She has been active in APA leadership for more than 30 years. She served as president of APA, ICP, EPA, and NYSPA. It was under her leadership that the Psy.D. program received its first accreditation status from the American Psychological Association.

In 2001, Dr. Herbert Krauss (Northwestern University) became Chair of the New York City Psychology Department. Just as his role as Chair was beginning, the nearby World Trade Center was attacked on September 11, 2001. He led the department through December of 2009.

Today, the New York City Psychology Department is part of Dyson College of Arts & Sciences. The department has 13 full-time faculty, 2 part-time faculty, 4 full-time staff, and adjuncts who support 2 undergraduate programs: Psychology and Applied Psychology/Human Relations, and 4 graduate programs: Master of Arts (M.A.) in Psychology, the Master of Science in Education (M.S.Ed.) in School Psychology, the Master of Science in Education (M.S.Ed.) in Bilingual School Psychology, and Doctor of Psychology (Psy.D.) in School-Clinical Child Psychology. In addition, the department offers a BA/MA degree in Psychology.

Significance

On March 1979, Pace University became the first university in New York State to offer a Doctor of Psychology degree (Psy.D.; Peterson 1992). On November 4, 1988 American Psychological Association (APA) gave

full accreditation to the Psy.D. with a specialization in School-Community Psychology (APA 1989). In 2000, 12 years later, the specialization was changed to a combined School-Clinical Child Psychology program and it too was fully accredited by APA as a Combined Professional-Scientific Psychology Program (APA 2000).

See Also

- ▶ [Denmark, Florence L.](#)
- ▶ [Fordham University, History of Psychology at](#)

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Pace, Edward

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Basic Biographical Information

Born: July 3, 1861; Died: April 23, 1938.

Edward A. Pace was an American theologian and philosopher who studied with Wilhelm Wundt at Leipzig and returned to the USA to establish a psychology laboratory at the Catholic University of America, the first at any Catholic university in the country. A Catholic priest, Pace was also a member of the American Psychological Association in its first year of existence. Although active as a researcher early in his career, he is best remembered for opening doors to the study of psychology by fellow Catholics and for the work of his students, notably Thomas Verner Moore, who was also a Catholic priest.

Pace was born in Starke, Florida on July 3, 1861. He studied at the Propaganda University in Rome from

which he received a bachelor's degree in sacred theology (1883). He was ordained a priest in Rome in 1885, and the following year he received a doctorate in sacred theology, also from Propaganda University. On his return to the USA, he became the pastor of a church in St. Augustine, Florida.

Pace did not remain as a pastor for long. In 1888, he was invited to occupy a chair in philosophy at the recently founded Catholic University of America in Washington, DC. While studying in Rome, he had impressed his superiors with his quick and agile mind and they remembered him when the new position became available. As preparation for assuming his new position, he planned to spend 3 years in additional studies at the University of Louvain and in Paris. However, while in Paris, he happened to pick up a book by Wundt and was so impressed, he decided he would have to study in Leipzig as well. He entered the program at Leipzig in 1889 and graduated with a doctorate in philosophy in 1891. His thesis was on the evolutionary theory of Herbert Spencer. Pace died on April 23, 1938 (Misiak and Staudt 1954).

Major Accomplishments/Contributions

Pace introduced a wide array of psychology-related courses to Catholic University, from traditional laboratory courses to courses in abnormal psychology. At the time, these courses were viewed as part of the philosophy curriculum by the administration. Eventually, however, a separate department of psychology was created. In addition to his work at Catholic University, Pace was active in research. He was one of only 13 Americans to publish articles in *Philosophische Studien*, the journal begun by Wilhelm Wundt. In addition to his doctoral dissertation, Pace published two articles on the fluctuation of attention there. Other publications included research on pain perception and binocular vision (Boring 1929).

Pace was an ardent supporter of the value of professional meetings. At the very first meeting of the American Psychological Association in 1892, he presented a paper on "tactile estimates of thickness." Much of his research underscored his belief in the close connection between psychology and physiology. He also made an important contribution by defending the new scientific psychology against attack by other

Catholics, frequently writing articles for Catholic publications. In fact, his greatest contribution may have been to promote psychology and interpret it for his fellow Catholics (Gillespie 2001).

Despite his love for psychology, Pace was active in several other areas. In 1893, he was a cofounder of the American Philosophical Association, and later became an editor of the 15-volume *Catholic Encyclopedia*. He also became increasingly drawn to education. In addition, his administrative duties took him further away from psychology. He received many honors during his lifetime. In 1914, he received a papal award from Pope Pius X, and in 1920, he was elevated to the rank of Right Reverend Monsignor. A testimonial dinner was held in his honor in 1931, and the presentations were bound into a book to honor him (Ryan 1932).

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Pagès, Robert

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Basic Biographical Information/ Major Accomplishments

Robert Pagès was a long-standing pillar of the intellectual fabric of social psychology at Sorbonne University. He published dozens of books and monographs and over 670 scientific papers. He was affiliated with the Trotskyite movement and holding egalitarian, anarchist realist ideas which cost him violent reactions from colleagues and state officials. Pagès was the father of French social psychology. He promoted social psychology and his influence around the world was

significantly outstanding. He devoted a large space of his time to education and mentoring students from Africa, South America, and Asia. He believed that education could raise consciousness and overcome social, political, and economical problems that faced developed and developing societies. He was the first to apply experimental methods systematically to the study of group processes, social relationships, and power. His extensive contributions in form of theory and research marked and shaped the major avenues in which French social psychology was to head in later decades. Pagès was both a distinguished creative methodologist and innovative theorist. He was heavily influenced by Marx's writings which affected him throughout his career as researcher, instructor, and mentor. His career was interrupted by World War II during which he was commissioned as a liaison officer. He was a revolutionary leader; during the war he got to know progressive thinkers. He was the founding father of the Laboratory of Social Psychology in the Faculty of Social Sciences at Sorbonne University which he directed from 1952 until his retirement in 1986. Pagès was given the title of professor of social psychology, taught the first courses ever offered in psychology, and headed the laboratory after Danielle Lagache. Pagès' experimental work first appeared in 1950 in *Bulletin de Psychologie*. Social psychology provided a useful set of concepts for research and teaching. In his seminars which I attended for 9 years, he stimulated discussions with such conceptions as *emprise* (power/control), group processes, social influence, higher mental functions, and macro-social factors.

From scratch, he gradually organized his laboratory based on the following ideas: (1) a rich library and strong documentation services; (2) teamwork and collaboration between researchers; (3) toward an appropriate social psychology grounded within the cultural historical social context of French society; (4) autonomy of social psychology from North American hegemony; (5) the laboratory was the only one of its specialty in France; and (6) the laboratory attracted the most brilliant scholars in the field of social psychology. He elaborated a well-defined theory in social psychology known as "*Theorie d'emprise* or *Power/control theory*" in which he articulated the biological, psychological, and sociological in a unified whole. He developed new concepts such as noeuds (humans) characterized by

strong external connections, quasi-noeuds (animals) characterized by strong internal connections, innoeuds (materials or organics), anoeuds (technical or practical), and enoeuds (ideological or religious). He stated that *emprise* relations can be possible only between noeuds (humans), causal relations between innoeuds (materials or organics). His theory is rich, complex, and promising; due to limited space it is very difficult to do justice to Pagès' intellectual achievements. His theory did not make its way to American mainstream psychology, but it has been well received in Spain, Italy, North Africa, Greece, Switzerland, Canada, Africa, Brazil, and United Kingdom.

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Paranjpe, Anand

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Biographical Information

Birthdate: 1936;

Birthplace: Chiplun, Maharashtra, India.

Prof. Paranjpe is a leading expert on Indian philosophy and psychology. His journey into the area of

psychology began in 1955 after studying physics and cosmology. He also studied philosophy which was taught as Western philosophy. After graduating, he joined an Indian nationalist volunteer organization and spent a year away living in small villages, spending time with people of the lowest socioeconomic strata. The plight of the poor witnessed by living amongst them was a moving experience that deepened the spirit of nationalism.

Paranjpe met Eric Erickson on a visit to India and was subsequently invited to a postdoc at Harvard under him. There he met Gordon Allport and Stanley Milgram.

Paranjpe next took a position at Simon Fraser University. At first, he conducted research on intergroup conflict. Then his interests turned to elucidating Indian philosophy and psychology. He studied Yoga as psychology. He also sought to compare and bridge Indian and Western psychological constructs. In 1998, he published *Self and Identity in Western Psychology and Indian Thought*.

Major Accomplishments

Paranjpe was quite critical of positivism in psychology, especially as practiced by the faculty at Simon Fraser. He joined forces with theoretical psychologists who emphasized philosophical issues and non-positivistic psychology. He was also unhappy with the positivism that dominated cross-cultural psychology (and continues to do so).

Paranjpe rejects reducing culture to a variable because it obscures the living diversity of culture. In addition, he criticized positivist methodology for using superficial behavioral measures that do not capture the reality of psychological activity. Nor can personality be reduced to a dependent variable.

Paranjpe followed Prof. David Bakan's writings to look at ideas in their historical and sociocultural context. He is writing prolifically about the psychological constructs that are embodied in Indian philosophy. He compares these to Western psychological concepts.

He is currently Professor Emeritus, Psychology and Humanities, at Simon Fraser University, Canada.

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Parapsychology

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Introduction

The evolution of theory in parapsychology is inextricably bound up with a complex history of ideas in philosophy, psychology, physical science, and social science. That history has developed through several distinguishable phases. Although it may rightly be said that parapsychology entered its scientific phase in the latter half of the nineteenth century, it will be necessary to say something about the prescientific developments relating to the phenomena investigated. To prepare for that discussion, it will be useful to examine the terminologies that have arisen in the evolution of parapsychological thought.

Definitions

Parapsychology may be defined as the scientific study of paranormal phenomena. The elements of this definition require some elaboration.

Psychical Research and Parapsychology

Parapsychology entered into its fully scientific phase with the founding of the Society for Psychical Research in Britain in 1882. In this phase the investigation of paranormal psychic was commonly called "psychical research," and in some quarters that term has been preferred to the present day. In the beginning, psychical research was defined as the systematic investigation of "an important body of remarkable phenomena of

human experience, which are *prima facie* inexplicable on any generally recognised hypothesis, and which, if incontestably established, would be of the highest possible value" (Society for Psychical Research 1882, p. 3).

Paranormal Phenomena

The term "parapsychology" was coined by Max Dessoir (1867–1947) in 1889. The terms "parapsychology" and "psychical research" indicate connections with the field of psychology, yet many of the phenomena studied could fittingly be categorized as physical or physiological. For that reason philosopher C. J. Ducasse coined the adjective "paranormal" to describe a data domain embracing all inexplicable phenomena. He defined a paranormal phenomenon as: "Any occurrence whose cause is neither that from which it ordinarily results, nor any other yet known to natural science as capable of causing it" (Ducasse 1951, p. 2).

Presumably, had Ducasse's new term been fully accepted, this entry would read "Paranormology" rather than "Parapsychology." Although that word was never adopted, reference to "paranormal" phenomena has become commonplace, so that C.D. Broad would some years later define "psychical research" as "the scientific investigation of ostensibly paranormal phenomena" (Broad 1962, p. 3), and this has become the accepted definition of "parapsychology."

By Ducasse's definition, a "paranormal" phenomenon was one not brought about by ordinary causes, but by a cause not yet known to the natural sciences. That definition has been altered and refined since 1951, and probably the best version is that of philosopher Stephen Braude, consisting of three elements: (1) the phenomenon cannot be explained in terms of current scientific theory, (2) it cannot be given a scientific explanation without major revisions elsewhere in scientific theory, and (3) it contradicts our usual expectations of the kinds of things that can happen to the objects involved (Braude 2002, p. 211). The present discussion is about the theories that have been devised to explain paranormal phenomena defined in these terms, and uses the term "parapsychology" to refer to the systematic study of those phenomena.

Problems with the term "parapsychology" as descriptive of the whole field of paranormal

phenomena have long been recognized. For that reason some researchers employ the word "parapsychology" to designate the investigation of paranormal phenomena that require some kind of psychological explanation, and "paraphysics" for phenomena that require a physical explanation.

Experimental investigation of paranormal phenomena brought about the introduction of the terms "extrasensory perception" (ESP) to designate telepathy, clairvoyance, and precognition, and "psychokinesis" (PK) to denote influence of physical objects produced by the mind. The more neutral term "psi" was coined by Bertold Wiesner and first used by Robert Thouless (Thouless 1942) to refer to both extrasensory perception and psychokinesis, and remains in common use today.

Range of Paranormal Phenomena

In the treatment that follows, a wide range of phenomena will be discussed, but for now it will be sufficient to say that today the data are said to include telepathy, clairvoyance, precognition and retrocognition, psychokinesis, and the effects of the mind on living systems. In addition, mystical experiences, survival of consciousness or the personality after death, and reincarnation are often discussed as related issues, along with out-of-body and near-death experiences.

Over the decades those who write and research in the field have rejected certain types of phenomena as serious candidates for parapsychological research. Some are considered too complex, making it almost impossible to discover what in the experience might be a paranormal effect capable of being extracted and studied as such. Others are judged not to be well enough attested to, to warrant investigation; thus, phenomena ranging from purported cases of human combustion to experiences of purported alien abduction tend to be excluded from consideration. (For more on the classification of paranormal phenomena, see Carr 2008, pp. 16–20).

As a science, parapsychology is both observational and experimental. As an observational science, parapsychology functions as natural history: it observes, collects, makes judgments about authenticity, collates and compares ostensibly paranormal phenomena, and then forms hypotheses and devises theories to explain these data. As an experimental science, it uses

information acquired from the natural history of the phenomena to construct experiments to test hypotheses proposed to explain the data. It is required of parapsychological theories that they not only conform to the paranormal data provided, but also not contradict the data and well-established theories of other data domains – particularly those of psychology, neuroscience, and physics.

Historical Background

The history of theories of parapsychology is long and complex. However, to understand parapsychological theories it is essential to know something about that history, at least in its broad outlines.

Proto-Parapsychology

As mentioned, scientific parapsychology had its beginning in the nineteenth century with the founding of the Society for Psychical Research in England. Before that time, however, there were significant attempts to come to terms with paranormal phenomena by devising explanations that were based on natural factors rather than the usual religious or theological ones. These early attempts make up what might be called proto-parapsychology.

The earliest attempts to explain paranormal phenomena as facts of nature occurred in the sixteenth and seventeenth centuries. There were three men in particular who made the point that paranormal phenomena must not be considered the province of theology or theologically oriented philosophy, but be subject to investigation by the methods of the newly emerging scientific paradigm. These three, Francis Bacon (1561–1626), Henry More (1614–1687), and Joseph Glanvil (1636–1680), insisted that the data of science should not be limited, but embrace all natural phenomena, including the unusual.

In the eighteenth century, the development of a healing theory called “animal magnetism” by Franz Anton Mesmer (1734–1815) had as one of its offshoots a variety of phenomena with paranormal aspects. Mesmer claimed that animal magnetic passes (sweeping movements of the hands over the body) induced physical healing in the ill. Other paranormal phenomena were in large part made possible by the discovery of “magnetic sleep” or “magnetic somnambulism” (later terms were “artificial somnambulism” and “hypnotic

somnambulism”) by Mesmer’s pupil, the Marquis de Puységur (1751–1825). Some people, when placed in this state through application of the passes, would show indications of clairvoyant knowledge, both about the nature of their own illnesses and those of others with whom they were placed in “rapport.” In addition, there were reports that magnetic somnambulism could be induced at a distance, that magnetizer and somnambulist sometimes experienced inexplicable communication of sensations or of thoughts, that a magnetic somnambulist could mentally travel to another location and describe what was occurring there (travelling clairvoyance), and that somnambulists could communicate with spirits of the dead. In the early nineteenth century, experiments were conducted to attempt to verify the genuineness of the phenomena, and a large literature dealing with these experiments came into being (Dingwall 1967; Crabtree 1988, 1993).

The nineteenth century movements called “Spiritism” in France and “Spiritualism” in the United States and England were largely fuelled by the experiences of individuals who, in the state of magnetic sleep, claimed to communicate with departed spirits and have other paranormal experiences. Some spiritualists, often in a state of somnambulist trance, had a particular knack for apparently contacting spirits in the other world and producing unusual phenomena, such as table levitations and materializations; these individuals were called “mediums.” In 1852, American Spiritualism gave birth to a new, ostensibly psychokinetic, phenomenon called “table turning” or “table tipping,” by means of which, it was believed, spirits of the dead could communicate with the living. Among those mediums who claimed to have messages from the dead, conveyed through trance speaking or automatic writing, a few were closely studied over lengthy periods of time; probably the most striking of these was the Boston housewife, Leonora Piper (1859–1950), discovered by William James. As the somnambulist state, which was often the platform for paranormal manifestations, became more thoroughly investigated, and as Spiritualism spread throughout the world, a variety of paranormal phenomena were reported in large numbers, and by the 1870s some called for a more unified and systematic study of these manifestations (Crabtree 1993).

Psychical Research

At the same time in England there came into being an academically based group associated with Cambridge University, who were concerned about what they considered the failure of traditional Christianity to come to terms with issues raised by paranormal phenomena, and especially the question of survival of bodily death. Science had weakened religion, not so much by direct attack as by creating an atmosphere of honest doubt that called the basic tenets of the Christianity into question (Gauld 1967, p. 45). In this tumultuous climate, a small group of friends at Cambridge came together to try to work out these issues in a different way from that manifested in the then current clashes between religious believers and proponents of materialism. Three leaders emerged from this group: Henry Sidgwick (1838–1900), Frederic Myers (1843–1901), and Edmund Gurney (1847–1888) (see Gauld 1967).

During the same period, a group of spiritualists in England began experiments on phenomena such as thought-transference and the exercise of the influence of will at a distance. This group had difficulty attracting outside support and approached the Cambridge group with the idea of forming a society to carry out psychical research. The Cambridge group was reluctant, but Myers and Gurney eventually agreed to be involved if the new society would be presided over by Sidgwick. The spiritualists agreed. Sidgwick accepted the invitation to be president and in February 1882 the Society for Psychical Research was launched. In the early phases, the spiritualist faction was in the majority, but as time went on, the agenda for the Society was increasingly influenced by the Cambridge group; some spiritualists became disillusioned with the project, and in 1886 and 1887 many resigned from the Society. Over the first few years of the SPR, Myers and Gurney emerged as the guiding lights of the enterprise and its most prolific researchers and writers. With the untimely death of Gurney in 1888, Myers's influence became central to the group.

The disillusionment of many of the spiritualist faction is not difficult to understand. The ideas of the Cambridge group dominated the vision and expressed aims of the Society, and the spiritualists' hope of using psychical research to gain adherents to spiritistic beliefs were thwarted. The intentions of the Society were stated in these terms:

1. An examination of the nature and extent of any influence that may be exerted by one mind upon another, apart from any generally recognized mode of perception.
 2. The study of hypnotism, and the forms of so-called mesmeric trance, with its alleged insensibility to pain; clairvoyance and other allied phenomena.
 3. A critical revision of Reichenbach's researches with certain organizations called "sensitive," and an inquiry whether such organizations possess any power of perception beyond a highly exalted sensibility of the recognized sensory organs.
 4. A careful investigation of any reports, resting on strong testimony, regarding apparitions at the moment of death, or otherwise, or regarding disturbances in houses reputed to be haunted.
 5. An inquiry into the various physical phenomena commonly called Spiritualistic, with an attempt to discover their causes and general laws.
 6. The collection and collating of existing materials bearing on the history of these subjects.
- The aim of the Society will be to approach these various problems without prejudice or prepossession of any kind, and in the same spirit of exact and unimpassioned inquiry which has enabled Science to solve so many problems, once not less obscure nor less hotly debated... To prevent misconception, it is here expressly stated that Membership of this Society does not imply the acceptance of any particular explanation of the phenomena investigated, nor any belief as to the operation, in the physical world, of forces other than those recognised by Physical Science. (Society for Psychical Research 1882, pp. 3–5)

The aim of the SPR's scientific exploration of the paranormal was formulated in terms of finding a "*tertium quid*" (a third something) that underlies both phenomena that have already received an adequate scientific explanation and paranormal phenomena. The concept of a *tertium quid* (proposed by Gurney and developed by Myers) presumes that *all* phenomena are natural and subject to scientific inquiry and theorizing, and that neither religious nor materialistic explanations of paranormal phenomena are adequate. This initial formulation of scientific intention remains

foundational for approaches to theory-making in parapsychology.

One of the first projects for the newly formed Society was the establishment of reliable criteria for collection of reports on spontaneous paranormal experiences. A significant outcome was the publication of *Phantasms of the Living* (1886), one of the most influential works of the early decades of the Society. Another project was the design of carefully devised experiments relating to ostensibly paranormal experiences to determine whether the phenomena in question were real, and if so, the nature of their operation. The “collation of existing materials,” mentioned above, enabled, among other things, the critical examination of previous investigations of paranormal phenomena. Work on these projects has continued in the years since the Society’s foundation; it has published some 60 volumes of its *Proceedings* and more than 70 volumes of its *Journal*, together containing more than 50,000 pages of research and critical evaluations relating to paranormal phenomena.

Frederic Myers

Myers was considered by his contemporaries to be a psychologist of great capacity and ingenuity. In attempting to transcend the conundrum of human duality bequeathed by Descartes, Myers insisted that we must look to a deeply empirical and scientific psychology for a solution. To do that, he said, we must expand the scope of the data of psychology to include those experiences that occur within the sphere that remains largely outside our conscious or ordinary awareness. He began exploring that region before Janet, who gave us the term “subconscious,” and Freud, who preferred “unconscious,” had begun their pioneering work. Myers initiated his investigations in the early 1880s and by the early 1890s had decided to subsume the phenomena he was identifying under the term “subliminal.” Myers’s “subliminal consciousness” included a much broader spectrum of human experience than the systems of Freud and Janet, and his treatment of the subliminal regions of human personality gave an opportunity to expand at one and the same time both the psychological and parapsychological dimensions of the psyche (Emily Kelly 2007, pp. 59–68).

The subliminal of Myers was that aspect of the human psyche that included all that is normally out

of reach of our direct knowledge. Within the subliminal were to be found not only the “disintegrations of consciousness” that were the main concerns of Janet and Freud, but also the manifestations of sleep, the phenomena of hypnotism, the uprushes of creative genius, and the “supernormal” faculties of the psyche, which included telepathy (a word coined by Myers), clairvoyance, and precognition. For Myers, the subliminal self was also the source of what he called sensory and motor automatisms, spontaneous manifestations within normal consciousness of activities originating in the subliminal.

The “subliminal consciousness” or “subliminal self” of Myers was so named because the dynamic region he was describing was below the threshold (“limen”) of consciousness. The subliminal self had as its counterpart the “supraliminal self,” that aspect of the psyche that operates above the threshold of consciousness, engaging with all that is normally directly available to us. The supraliminal consciousness is our normal, everyday self, dealing with the “mundane” concerns of daily life.

Myers believed that this hidden environment, the subliminal, must be fundamentally continuous with, and interrelated to, the one that is directly available to the supraliminal. This indicates that all of its phenomena and processes are legitimate objects of scientific investigation. This novel vision was the basis for the inclusion of psychical research among the sciences. The coexistence and profound continuity of the subliminal with the supraliminal was axiomatic with Myers, and the basis for his call for a scientific, empirically based psychology of the total human being. It was also the foundation for the scientific study of the paranormal.

Myers’s development of a vision of a broad scientific psychology based on his model of the subliminal self was laid out in a series of articles in the *Proceedings* of the Society for Psychical research published over the course of 4 years (Emily Kelly 2007, p. 61n). The overall exposition of Myers’s vision was published posthumously in a two volume treatise *Human Personality and Its Survival of Bodily Death* (Myers 1903). This work had a profound effect on the course of the subsequent development of parapsychological theory.

Myers died in 1901, and the SPR published a number of tributes to the man and his work in its *Proceedings* (Society for Psychical Research 1901).

Among those who contributed was American philosopher and psychologist William James. James was a close friend of Myers (he was present at his death) and had long been active in psychical research (James 1986). In writing about Myers's contributions to psychical research, he emphasized the importance of his doctrine of *continuity*:

- One cannot help admiring the great originality with which Myers wove such an extraordinarily detached and discontinuous series of phenomena together. Unconscious cerebration, dreams, hypnotism, hysteria, inspirations of genius, the willing game, planchette, crystal-gazing, hallucinatory voices, apparitions of the dying, medium-trances, demoniacal possession, clairvoyance, thought-transference, even ghosts and other facts more doubtful – these things form a chaos at first sight most discouraging. No wonder that scientists can think of no other principle of unity among them than their common appeal to men's perverse propensity to superstition. Yet Myers has actually made a system of them, stringing them continuously upon a perfectly legitimate objective hypothesis. (James 1901, p. 18)

For Myers, there is only one reality, not two: there are not natural and supernatural, as the theologians would have it, nor mind and matter, as the followers of Descartes believed. All reality is one, all reality is interrelated, and there are no unbridgeable gaps between its elements. For that reason, Myers insisted, psychical research was, and had to be, a science, exactly like all other sciences, and its data and methods were in essence the same as those of all other sciences, adding one more scientific data domain to the many that already existed. Through Myers's work this has become the bedrock theoretical position of the majority of psychical researchers and parapsychologists to the present time.

Laboratory Phase

Although experimentation was a part of psychical research from its earliest days in the 1880s, with simple, relatively easy to evaluate tests, such as card guessing and telepathic communication, and although Charles Richet had developed an early form of probability calculation in connection with mental suggestion (Richet 1884), the experimental dimension of parapsychology received its true initiation with the laboratory work of Joseph Banks Rhine (1895–1980). By the time

Rhine had begun his experiments in the 1930s, the statistical apparatus needed to evaluate his data had greatly improved from its beginnings with Richet. According to Beloff (1993, p. 127), Rhine's work had three main objectives: (1) to introduce into the study of the paranormal an experimental program based on a sound methodology, (2) to gain academic status and scientific recognition for parapsychology, and (3) to show, if possible, that psychic ability was not the preserve of exceptional subjects, but a widespread phenomenon.

Rhine established his program at Duke University in Durham, North Carolina in 1930. The object was to study ESP, a term coined earlier by Rudolph Tischner, denoting the acquisition of information not obtained through the physical senses and not inferred through experience, and, later, psychokinesis (PK). His best known work involved the guessing of "Zener cards" (designed with a variety of special symbols) invented by a fellow member of the Duke faculty, Karl Zener, and attempts to influence the fall of dice. Careful records of successes and failures in guessing were kept and subjected to statistical analysis. The results over time showed significant above-chance success, and were offered as evidence for the existence of ESP and PK. Rhine wrote of his findings and their significance, in journal articles and books that became classics in the field (Rhine 1934, 1937, 1947, 1953).

Although the three objectives Rhine set for himself were not fully realized, and although many in the field of parapsychology found the laboratory approach too restrictive to give a real sense of the richness of the phenomena, Rhine's pioneering work was influential and important to subsequent developments in parapsychology.

Rhine's wife and laboratory partner, Louisa, took up collecting spontaneous cases, a project she believed had value in its own right. She made the point that "instead of isolated and concrete suggestions for experiment, the continued study of the [spontaneous] material permitted a more fundamental concept of the psi process than I could have anticipated" (Rhine 1970, p. 150.). Examination of spontaneous cases complemented the experimental approach, which tended to stress the separation of categories of paranormal phenomena (telepathy, clairvoyance, etc.), by allowing the phenomena to be examined in their contextual richness.

Skepticism

Skepticism is part of every healthy scientific process. Accuracy of observation may be questioned, sources of artifact and error detected, cogency of hypotheses put to the test, and adequacy of theories critically evaluated. Such skepticism has always been evident in parapsychology, voiced both from within and without the field. But another kind of skepticism has existed throughout the history of parapsychology. It is a skepticism based on an assumption or presupposition about paranormal phenomena in parapsychological research. That assumption might be stated: paranormal phenomena are contrary to both common sense and scientific findings (taking current scientific positions as final) and therefore not worthy of serious consideration. In some cases this skeptical attitude is based explicitly on a metaphysical position that holds such phenomena are in principle impossible. It is this presupposition, stated or implicit, that has been the outlook of a number of commentators who consider themselves skeptics about the paranormal and see themselves guardians of orthodoxy.

William James, who was always prepared to engage in dialogue with those who held seriously considered doubts about psychical research, expressed dismay at how far unthinking prejudice could take even some who called themselves men of science. His disgust was barely concealed when he described this example:

- Why do so few “scientists” even look at the evidence for telepathy, so called? Because they think, as a leading biologist, now dead, once said to me, that even if such a thing were true, scientists ought to band together to keep it suppressed and concealed. It would undo the uniformity of Nature and all sorts of other things without which scientists cannot carry on their pursuits. (James 1899, p. 10)

Here the issues of continuity and uniformity once again come to the fore. Parapsychologists hold, as presumably all scientists do, that reality *is* one, uniform, continuous, and totally interrelated. They believe that there can be no place for prejudgment of the issues. What needs to be discussed and placed under critical scrutiny is the validity of the data, on the one hand, and the cogency of the theories on the other. Analyses and criticisms of these kinds are vital to progress in the field, while a priori dismissal obstructs legitimate inquiry and promotes an antiscientific position.

Many parapsychological investigators contend that the existence of paranormal phenomena has been conclusively established, and that the chief task of parapsychology now is to look into the nature of psi phenomena and the conditions that promote or inhibit their production. Skeptics say that, on the contrary, the phenomena have not been established conclusively, and that all purported paranormal phenomena can be explained away. Skeptical commentators on parapsychology have tended to concentrate on the issue of data validity. The most frequently mentioned reasons for having doubts about the reliability of the data involve the possibility of: fraud, poor observation, selective reporting, memory distortion, defective experimental design, statistical flaws, and sensory leakage. It is not possible to enter into a discussion of the disputes that have occurred over the past century and a half, but for further information the following skeptical writings can be consulted: Alcock 1981; Hansel 1980; Hyman 1985; Kurtz 1985; Leahey and Leahey 1983; Zusne and Jones 1982.

Key Issues

In the evolution of parapsychological theories, two kinds of issues emerge: those relating to the handling of data and those that concern the theory-making process itself.

Data Issues

Over the past century, five major data domains have been distilled out of the mass of reported paranormal phenomena: telepathy, clairvoyance, precognition and retrocognition, psychokinesis, and the effect of the mind on living systems. The “big five” lend themselves fairly well to scientific inquiry and experimental testing in that they seem to have reasonably well marked boundaries. Recent investigators of the psi point out that the phenomena cannot be neatly divided into strongly distinct categories, and, this being the case, it is important to work out a theory of the paranormal that transcends this rigid classification and allows for the complexity of the data as it actually occurs.

In this connection, Robert Morris (Morris 1986) has published a description of a model for parapsychological experimentation that avoids the problematic strict categorization of the modalities of psi, and treats all paranormal events as instances of a single

configuration. His model describes what occurs when an investigator interprets a set of events indicating psi. The psychic or psi subject has as target some external situation or event from which he or she is separated by a barrier that both prevents the subject from receiving any information from the target, and the target from being influenced by the subject, through any ordinary means. The analysis of the event is then made in terms of the conditions in which the barrier is breached and psi occurs. This model, focussing investigation on how information is mediated in either direction between the environment and the individual, applies to the modalities ordinarily categorized as ESP and PK, and at the same time can be used in regard to both case reports of spontaneous experiences and experimental data.

Theory Issues

Rex Stanford points out that theories perform several functions: provide explanations by which facts can be deduced from laws; produce predictions of as yet undiscovered observations; encourage new incisive experimentation; make explicit unrecognized assumptions; clarify what is known and not known in a particular area of research. Specifically in regard to parapsychology, he states that real theory building should lead to the development of central concepts about psi functioning that subsume prior observations and suggest new ones. It is Stanford's belief that parapsychology is at present in the process of developing a conceptual framework for its research (Stanford 1977, pp. 823–825).

In the past 100 years many parapsychological theories have been proposed to explain all or some psi phenomena. Myers's theory of the subliminal self provided a broad basis for considering paranormal phenomena on a continuum with normal phenomena and subject to the same kind of scientific investigation. Myers, William James, and Henri Bergson presented theories of the relation of mind to brain, summarized as the "filter" or "transmission" theory, by which the mind is not generated by the brain, but limited and focussed by it in order to reduce what would otherwise be an overwhelming cacophony of perceptions, to a filtered input that would allow the individual to live and act effectively in the world (Edward Kelly 2007, pp. 603–639). This is still regarded as a viable explanation, especially given what modern neuroscience has

revealed about the tiny trickle of information available to consciousness awareness.

In the 1970s, Stanford developed what he calls the PMIR (psi-mediated instrumental response) model for extrasensory events. The model posits that in the presence of a particular need, an organism uses ESP as well as sensory means to scan its environment for objects and events relevant to that need, and for information crucially related to such objects or events. Where sensory information is about need, relevant objects or events, a disposition toward psi-mediated instrumental response occurs. Here psi happens because it is needed. This mobilization of psi occurs below the level of conscious awareness (Stanford 1977). Also, C. T. K. Chari produced a thorough-going analysis of psi theories, models, and paradigms (Chari 1977). He pointed out the daunting challenges inherent in any attempt to construct a psi theory that is broad enough to embrace all the phenomena usually classified as paranormal: "Any full-dress explanation in parapsychology seems to need the whole gamut of the social, psychological, biological, and physical sciences" (p. 805). He points out that there is a large gap between methodology and theory in parapsychology. Theories that lack a methodological schema for verification remain metaphysical constructs. On the other hand, experimental work carried out on a sound methodological basis may produce many interesting correlations but lead to no compelling theory that indicates why those correlations exist. Chari talks about a crying need in parapsychology for a meta-theory setting out the criteria and the limits for theories about psi phenomena and the universe, and admits that the development of such a meta-theory is "a stupendous task for which few parapsychologists or even teams of parapsychologists are equipped" (p. 810). This remains true today.

Theories since Myers, particularly those of the last half of the twentieth century, fall into several categories. Electromagnetic theories of psi explain both ESP and PK in terms of the operation of some type of electromagnetic radiation. Other theories posit new forms of undiscovered energy or new types of particles conceived specifically for the purpose of explaining psi interactions, most of which have proved completely untestable. For a comprehensive review of psi theories consult Carr (2008, pp. 23–35) and Stokes (1987, 1997, 2007).

A Meta-theory

Theories give explanations for data encountered in particular areas of observation. For practical reasons and from our evolutionary and social constitution, we delineate objects of experience and areas of investigation that isolate certain combinations of perceptual input. These areas of investigation are carved out from the plenum of experience, and we can call these areas “data domains.” Each of the sciences deals with its own data domain, and general theories meant to account for the data within that domain might be called domain theories. The science may also generate less general theories within its domain, dealing with limited aspects of the data.

Because the reality investigated by science, referred to as nature, is characterized by uniformity and continuity, domain theories must not only be consistent with the data of their domains of origin, they also must not contradict established findings of other domains, and parapsychology, as the scientific investigation of the domain of paranormal phenomena is subject to the same rules of compatibility.

Survival of Death and Reincarnation

Given the necessarily broad nature of a parapsychological meta-theory, it may well be called upon to explain data relating to human survival of death and reincarnation. Some parapsychologists believe that the accumulated evidence of survival is convincing (see Kelly et al. 2007) and that the evidence for reincarnation is even more impressive (see Stevenson 1966, 1975–1983, 1997). If indeed arguments for the reality of survival and reincarnation are compelling, it would seem that any general parapsychological theory would have to provide the means for understanding how the constitution of a human being, and the nature of identity and continuity in human personality, would make survival following separation from the physical body possible. Such a theory would have to have the backing of a philosophical framework that deals adequately with the mind-body problem and the question of the ultimate constituents of reality. The making of such a meta-theory is a daunting task indeed.

Future Directions

Although a parapsychological meta-theory has not yet been developed, certain scientific and philosophical

directions are emerging that may contribute to its eventual creation.

Because the mind is involved in paranormal phenomena, a general theory must address the mind-body problem and talk about issues that are normally considered the province of ontology and epistemology. In this regard it should be noted that among philosophers of mind, the issue of panpsychism has recently been moving into greater prominence. Panpsychism (or panexperientialism) is a theory that posits mind as a constituent element in the makeup of all reality. This approach does not necessarily imply the action of an omnipresent God, but often takes the form of the involvement of mind at a fundamental level in the original formation of the universe. If mind is basic to the very existence of all things, then the mind-body problem, which posits the complete separation of mind and matter, can be solved. Two important recent discussions of this issue are those by David Skrbina (2005) and Galen Strawson (2006).

Another philosophic position makes use of “process philosophy” to construct a framework that is compatible with the existence of paranormal phenomena in general. Prominent philosophers, whose ideas are considered to have contributed to the development of process philosophy, are Charles Sanders Peirce, William James, and Henri Bergson. The philosopher who developed the concept of process philosophy as a system is Alfred North Whitehead. Process philosophy holds that the basic realities are not substances, but passing experiences that arise out of the past and create the future. This involves the notion that everything in some way has experience, and at each present moment takes part in the creation of the next moment to come. This means that every existing thing is involved in the evolution of our universe. An essential element of process philosophy is that our perceptual knowledge of the world beyond ourselves is not dependent solely on sense experience, but involves another way of being in touch with and experiencing our environment. It should be clear that this philosophic approach has many elements that are friendly to the existence of the paranormal (see Griffin et al. 1993 and Griffin 1997). Eric Weiss has recently used Whitehead’s formulation of process philosophy, in combination with the ideas of the Indian philosopher Sri Aurobindo, to develop a model of reality that is not only compatible with,

but in some way requires the existence of, paranormal phenomena, panexperientialism, and survival of death (see Weiss, www.ericweiss.com/the-long-trajectory).

Another stream of input into a possible meta-theory flows from theoretical physics, both from quantum mechanics and from multidimensional speculations.

Mathematician and cosmologist Bernard Carr has developed a hyperdimensional theory that attempts to show that higher dimensions are fundamentally associated with mind. He believes this model bridges the gap between mind and matter and makes sense of paranormal phenomena. In his model, the material world becomes mind-like and the mental world becomes matter-like. This allows for the unification, in a higher dimension, of objects and percepts that seem to be totally separate. Carr states that his view allows for the possibility of nonphysical perceptions of the world (Carr 2008).

On another front, theoretical physicist Henry Stapp of Lawrence Berkeley National Laboratory, who studied under both Wolfgang Pauli and Werner Heisenberg, has developed an understanding of quantum mechanics that is an elaboration of the Copenhagen interpretation, as it was modified by the work of John von Neumann. This view sees the reduction or “collapse” of events in the physical world as involving consciousness in an essential way, so that the world is inherently psychophysical. The part played by consciousness is the making of a choice of an experimental question or probing action, a choice not determined by any known law or rule, and as such considered a “free choice.” This solves the problem that had plagued classical physics since the time of Newton: the fact that in a world completely explainable in physicalistic deterministic terms, a causally closed world, there is no possible role for consciousness and freedom. It creates the vision of a world no longer dynamically closed, but open to the meaningful participation of the mind (Stapp 2007). Of interest to the parapsychological theoretician is the fact that, in contrast to classical physics, Stapp’s version of Copenhagen quantum mechanics, while not proving the existence of paranormal phenomena, at least makes room for the possibility of not only psi events, but even such things as human survival of death and reincarnation. This opens the door for new avenues of parapsychological research and creates serious difficulties for fundamentalist skeptics.

Dean Radin, research scientist at the Institute of Noetic Studies, emphasizes another significant aspect of quantum theory: “One of the most surprising discoveries of modern physics is that objects aren’t as separate as they may seem. When you drill down into the core of even the most solid-looking material, separateness dissolves” (Radin 2006, p. 1). For a long time quantum theorists believed that this “entanglement” was fleeting, and operative only on the microscopic level of reality, but, says Radin, scientists are now finding that these entanglements “scale up” into our macroscopic world. He states that reality is woven from strange “holistic” threads, and “Tug on a dangling loose end from this fabric of reality and the whole cloth twitches, instantly through all space and time” (p. 3). Radin makes the case that paranormal phenomena turn out to be not bizarre at all, but the kinds of things one would expect in an entangled universe, and that what is today the study of parapsychology will tomorrow be just part of the science curriculum: “History shows that as the scientific frontiers continue to expand, the supernatural evolves into paranormal, and then into normal. During the transitional periods there is much gnashing of teeth. But with determination and courage, progress is relentless” (Radin 2006, p. 296).

Prospects for Theory Development

Today parapsychology is increasingly characterized by a “grounded” approach to theory-making. “Grounded theory” is a method for generating theories which, although first formulated in sociological research, can be applied to every science. It is an inductive approach that keeps the researcher going back and forth between data collection and categorization and producing theoretical constructs that embrace the evolving mass of data. The purpose is to stay close to the empirical data and yet allow theory and inspirational thinking an early place in the process (see Glaser and Strauss 1967).

There are several current projects that apply this approach to parapsychological theory-making. Dean Radin, investigates paranormal phenomena in this spirit. His research involves both experimental work and the statistical analysis of paranormal data, collected from the beginnings of psychical research to the present time. He writes about the importance of “meta-analysis” for psi research: “For psi experiments, we can

ask questions not only about how an individual performed, or how a group of individuals performed in a given experiment, but how people perform *in general* across many experiments” (Radin 2009, p. 49). This is accomplished through a method of statistical analysis, wherein the units of analysis are the results of independent studies, rather than the responses of individual subjects. This approach provides a significant insight into the reality of the paranormal as it has been observed over many decades of research. Radin’s experimental, theoretical, and statistical work has done a great deal to establish IONS as one of the most important centers of psi research and theorizing about psi at the present time.

Another research project that aims to advance parapsychological theory-making is a combined undertaking of the Division of Perceptual Studies (DOPS) in the Department of Psychiatry and Neurobehavioral Sciences at the University of Virginia, and the Cedar Creek Institute (CCI), also located in Charlottesville, Virginia. Under the direction of Edward Kelly, the Cedar Creek Institute undertakes psychophysiological studies of subjects using state-of-the-art neuroimaging techniques. These techniques are applied to advanced meditators, out-of-body subjects, trance mediums, hypnotic virtuosos, and high-level psi subjects. At the same time the Institute undertakes the collection and systematic analysis of all forms of evidence relating to human survival of death. The CCI has a close working association with DOPS, founded by Ian Stevenson in 1968, which has accumulated a large store of data relating to reincarnation, near-death experiences, and other phenomena occurring around the dying process. DOPS continues a 40-year project of data collection and analysis, offering insights into the nature of these phenomena and the constitution of the human psyche.

Another project with relevance to theory-making in parapsychology is the Seminar on Human Survival of Death sponsored by the Esalen Centre for Theory and Research. Originally formed in 1998 by Michael Murphy, the Seminar brings together experts from a broad spectrum of disciplines to investigate phenomena relating to the possibility of survival of death. The expertise of the seminar’s members includes: psychology, neuroscience, quantum mechanics and astrophysics, philosophy, anthropology, studies of Eastern and Western esoteric traditions, comparative religion, and

parapsychology. One of the principal aims of the Seminar is the development of a scientific meta-theory of paranormal phenomena, which will take into account the “rogue” phenomena of parapsychology, be compatible with findings of all the relevant sciences, and cast light on the possibility of survival of death and reincarnation.

Conclusion

The development of theory in parapsychology has had a long, complex history. The majority of parapsychologists believe that the validity of the phenomena has been well established by the mass of data that have accumulated since the foundation of the SPR, and there is now a push to theory development and to process-oriented empirical research. Currently, the gathering of new experimental and spontaneous case data tends to be oriented to the development of theories that are adequate to the broadest spectrum of data, and to the exploration of the implications of that data to related issues of survival of death and reincarnation. This task is conceived as both benefiting from and contributing to recent developments in the other sciences, particularly psychology, neuroscience, and physics.

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Parrish, C. S.

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Basic Biographical Information

Parrish (1853–1918) who preferred, Celeste, was born in Pittsylvania County, Virginia Thomas (2006). She died in Clayton, Georgia, where her grave monument bears the epitaph, “Georgia’s Greatest Woman,” an honor bestowed upon her by the State Superintendent

of Georgia's public schools. Orphaned at age 10, by age 15 and largely self-taught, it became necessary for her to teach in a rural Virginia school to support herself and her siblings. In 1893, after years of considerable sacrifice, hard work, and further education, Parrish was offered the chair in mathematics at Randolph-Macon Woman's College (R-MWC) in Lynchburg, Virginia (R-MWC began admitting males in 2007 and was renamed Randolph College). Being responsible also for philosophy, pedagogy, and psychology, Parrish volunteered to learn psychology. Working around her obligations at R-MWC, she earned a bachelor's degree (Ph.B.) in psychology at Cornell University in 1896. Her supervisor was the well-known experimental psychologist, E. B. Titchener (Parrish 1925).

Major Accomplishments/Contributions

Modeled on Titchener's laboratory, Parrish established the psychological research laboratory at R-MWC in 1894, which is widely recognized to have been the first such laboratory in southern USA. In 1901, she was appointed Director of the "Practice School" and Chair of Psychology and Pedagogy at the Georgia State Normal School in Athens, Georgia ("normal schools" specialized in teaching post-secondary students to become teachers). In 1902, Parrish obtained funds from the philanthropist, George Foster Peabody, to establish a first-rate psychological research laboratory and to build a practice school building at the Normal School. Parrish also taught child psychology during summers at the University of Georgia (Athens, GA), and circumstantial evidence suggests she was instrumental in establishing the first psychological research laboratory there in 1902.

Following her Ph.B. degree, Parrish spent three summers at the University of Chicago studying with John Dewey. She became a tireless advocate for progressive educational reform based on Dewey's pedagogical theories. Her advocacy was multiplied when her Normal School students began to teach, and Parrish obtained even wider results after she became a State School Supervisor (1911) responsible for the public schools in Georgia's 48 northernmost counties. In 1914, she evaluated the Atlanta Public School System,

and the Board of Education enthusiastically adopted the progressive recommendations in her 33-page report.

Parrish's passion for implementing progressive education in Georgia also had deleterious effects on her career. She was a strong advocate for equal educational and employment opportunity, especially in education, for women. However, her advocacy of education for Negroes, despite how necessarily muted it had to be in the south in the early 1900s, was far less well received. Early in her tenure at the Georgia State Normal School, a bitter and enduring conflict arose between Parrish and the school's president, E. C. Branson, initially due to her refusal to behave subserviently toward him and to her insistence that she was his academic peer. Branson declared very early that one of them would have to go, but that the separation was delayed until 1911 (Montgomery 2008).

An early crisis for Parrish arose at the Normal School when in a class discussion about what interests whites should have in the Negroes, a student asked Parrish for her views about teaching them. Parrish replied that she had been glad to teach Negro teachers in their normal schools and would do so again. When the student replied that she would never teach Negroes, Parrish told her that if that was true, then she should get out of teaching. The student complained inaccurately to her politically influential father, and efforts were made in 1902 and in 1903 to have Parrish fired. She was exonerated on both occasions, but in 1911 Branson succeeded in getting the Board of Trustees to dismiss Parrish.

Parrish still had considerable influence and, as noted earlier, was appointed to be a State Supervisor responsible for public schools in Georgia's 48 northern counties. At that time she relocated her residency to Clayton, Georgia, where she remained until her death.

Parrish's theoretical contributions were best expressed as an innovative founder and advocate. Founding the first psychological laboratory in the south (and two others) contributed to psychology's development as a science. Equally important were her advocacies for Dewey's ideas for progressive education, women's rights, and for equal educational opportunities for Negroes.

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Paterson, Donald G.

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Basic Biographical Information

Born: January 18, 1892; Died: October 4, 1961.

Donald Paterson, child of deaf parents, developed his interest in psychology in the context of applying it for individual and social improvement. While an undergraduate, he was influenced by Frank Parsons, an early proponent of vocational guidance, and then came into contact with two of the most realistic and practical psychologists in America when he went to Ohio State University for his graduate work, A. P. Weiss and ► [Pintner, Rudolf](#). Paterson formed a close working relationship with Pintner, and they published several papers and a well-regarded set of tests to measure intelligence nonverbally, the Pintner–Paterson Scale of Performance Tests (Pintner and Paterson [1917](#)). In connection with his work with Paterson, Pintner developed a career interest in issues connected with education of the deaf. At this point, Paterson went to Kansas to begin an academic career, and began working with Walter S. Hunter. Paterson’s observations about the unknown reliability of the measurement of maze performance led Hunter to propose that Paterson should carry out doctoral studies in this area, but marriage and the First World War intervened and that project was not done. In fact, Paterson never obtained a Ph.D. and was awarded an honorary LL.D. by The Ohio State University only in 1952. After the war, he spent

2 years with the Scott Corporation and then was invited to Minnesota by Richard Elliot in 1921, remaining there for the rest of his career.

Major Accomplishments/Contributions

Paterson became one of the leading applied psychologists in the USA: His main contributions were to the development of systems of vocational guidance and employment statistics. He is often considered to be the originator of modern vocational guidance within universities: Several of his graduate students became prominent in the testing field. He also continued his interests in testing and measurement. His contribution to the 1928 Sigma Xi symposium at Minnesota, in collaboration with several other specialists on the measurement of physical growth, was a model of skeptical psychometric analysis, demolishing the alleged relation between physique and intellect (Paterson [1930](#)). He also coauthored, with Elliott (► [Elliott, Richard M.](#)) and several other Minnesota colleagues, the Minnesota Mechanical Ability Tests (Paterson et al. [1930](#)). Also in 1930, he began a long collaboration with his new colleague Miles A. Tinker on the legibility of type, which resulted in a well-respected manual for typographers and other print communicators (Paterson and Tinker [1940](#)). Paterson was a productive teacher and sponsored, according to several sources, 88 doctoral dissertations and over 300 master’s theses at the University of Minnesota. He was Secretary of the American Psychological Association for several years and held many offices and editorships in the area of applied psychology: He was a charter member of the American Board of Professional Psychology in 1947. Paterson’s service extended outward into the surrounding community: He was a founding member of the ACLU in Minneapolis and active in his neighborhood association, and even provided vocational guidance to neighbors’ children when necessary (Fraser [1992](#)). Paterson’s career has become a focus of interest both in industrial/organizational psychology (Erheim, Zickar and Yankelevich [2007](#)) and in the history of psychology (Baker [2006](#)) because of its many connections to important infrastructural relations between applied psychology and the surrounding society.

See Also

- Elliott, Richard M.
- Pintner, Rudolf

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Peace Psychology, History of

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Introduction

The history of the contributions of psychology to the study of war and peace includes both early, philosophical origins, as well as modern and postmodern social science perspectives. Psychology's fundamental search for understanding human behavior, motivation, and meaning has generated research on a variety of topics that inform our understandings of violence and nonviolence.

Early peace psychologists viewed human nature in terms of drives and impulses that are innate and shaped by the environment with aggression having both the potential for destructive as well as constructive outcomes. Given this conceptual framework, a key question that followed was whether war was an inevitable

manifestation of human nature. Following World War II, the impact of the threat of nuclear war and conflict resolution emerged as central concerns. Subsequently, since the end of the post-Cold War period, the study of forms of violence, both individual and institutional, has taken center stage. In the twenty-first century, peace psychology has become a highly contextualized, global discipline as theorists across countries, cultures, and genders have become active contributors to the study of war and peace and to the promotion of social justice.

Historical Background

Peace psychology has been defined as the study of mental processes that produce and prevent violence, as well as facilitates nonviolence. Peace psychology is also interested in healing the effects of violence and promoting human rights (MacNair 2003). Peace psychology pursues theories and practices that promote social justice via the study of direct and structural forms of violence (Christie et al. 2001). While social psychology and political psychology share some common contents, peace psychology as a discipline differentiates itself by placing greater emphasis on understanding how broad institutions such as governmental structures, economies and cultures, and their influences shape constructive approaches to conflict management (Deutsch 1973).

The early philosophical origins of perspectives on war and peace have been traced back to Pythagoras in 570 BC, whose teachings emphasized the universality and equality of humans and opposed violence and war (Rudmin 1991). The first modern peace psychologist has been identified as William James. This philosopher-psychologist was well known for his views on war and peace, publicly expressing his opposition to imperialism and military passion. In "The Moral Equivalent of War," James addressed the psychological, political, and economic functions of war, asserting that an alternative to war was possible and that war was not a necessary consequence of human nature (Deutsch 1995).

The question of the inevitability of war was the central issue in the exchange of letters between Albert Einstein and Sigmund Freud in 1932. Following the failure of the League of Nations, and at the request of the Institute for Intellectual Cooperation, Einstein, a noted pacifist, proposed a dialogue with Freud on

the question of “Why War?” Freud’s response largely supported the idea of inevitability, referencing his concept of the “death instinct” as a part of human nature difficult, though possible, to overcome (Isaacson 2007).

Following World War II, psychologists also became advocates for peace. A noteworthy document, “The Psychologists’ Manifesto: Human Nature and the Peace: A Statement by Psychologists,” held the signatures of its creators (e.g., Gordon Allport, E.R. Hilgard, Otto Klineberg, and Edward Tolman) as well as the signatures of 4,000 other American psychologists (reprinted in Jacobs 1989, and in Murphy 1945). The manifesto affirms the position of these psychologists on the prevention of war and the promotion of peace and human rights.

Throughout the second half of the twentieth century, as psychology was growing in relevance as a social science and as a profession, peace psychology also transitioned into a more coherent and cohesive area of inquiry. This transition included a shift from individual theorists working independently to the emergence of peace psychology as a field. Following World War II and during the Cold War period, psychological research began to address the behavioral dimensions of the threat of nuclear war (Russell 1961). Psychologists contributed to knowledge regarding the impact of the risks of nuclear annihilation, strategies for deterrence of this threat, and processes of conflict resolution on individuals and societies.

American peace psychologists evolved from an aligned relationship with the military in the USA that facilitated nationalist Cold War goals amid the super-power standoff, to promoting peace and conflict resolution through the study of a wider set of national security issues. Initially, psychologists investigated the question of how the population might anticipate and adjust to the threat of nuclear confrontation. Subsequently, the voices of psychologists became increasingly independent of the political aims of a nation and focused more broadly on studying systems that contribute to war and other forms of violence worldwide. The scope of concerns, then, for the field of peace psychology, developed from an exclusive study of dyadic super power relations between the USA and the Soviet Union into a multidimensional study of all structures of societies that threaten the security of individuals, communities, and nations (Christie et al. 2001).

The interests of peace psychologists became progressively more organized via publications and conferences. Sentinel events in this new emerging field were the publication of *Psychology and the Prevention of Nuclear War* (White 1986) and the recognition of the study of peace psychology by the American Psychological Association that established the Division of Peace Psychology (Division 48) in 1990 (Wessells 1996). These developments followed from research published in the *Journal of Social Issues* and the *Journal of Conflict Resolution* that transitioned from Cold War concerns with the risk of war to a focus on conflict resolution and the promotion of peace. Clearly, the field of peace psychology initially coalesced around visions for promoting a more secure world in terms of reducing frigid super power relations.

By shifting from this twentieth century, exclusive focus on the prevention of nuclear war, peace psychology forged a new vision as a more multifaceted, globally inclusive field that addressed issues of violence and conflict resolution that affect individuals and nations worldwide. While nuclear war and tensions between nations remain a significant global threat, peace psychologists recognized that there has been a trend away from wars between nations to intrastate conflicts and asymmetrical war, including terrorism. One manifestation has been the changing structure of and the increase in the number of United Nations peacekeeping operations since the end of the Cold War (Langholtz 1998). Though the first U.N. peacekeeping mission began in Palestine in 1948, the Department of Peacekeeping Operations (DPKO) at the United Nations was not established until 1992. Sixty-three peacekeeping operations have been conducted, the majority since the end of the Cold War.

The successes and failures of U.N. peacekeeping missions led to the recognition that peacekeeping without supportive diplomacy, clear rules of engagement, and the follow-up building of societal infrastructure rendered fragile peace agreements vulnerable. Peacekeeping is now viewed as having three interrelated components: peacemaking, peacekeeping, and peacebuilding. Peacemaking involves utilizing the principles of negotiation and conflict resolution to facilitate quiet diplomacy in order to ameliorate the early stages of rising tensions; peacekeeping stabilizes conflict zones implementing peace agreements, reducing the suffering of affected populations and limiting the

potential for conflicts to spread across entire regions; peacebuilding follows conflicts and addresses the structural components of society that have provoked conflict and may undermine a peaceful future, for example, providing medical care, policing, and holding democratic elections (Rubin 2010). Psychologists representing a number of professional affiliations have achieved consultative status at the U.N. as nongovernmental organizations (NGOs) and apply psychological science to the behavioral dimensions of a range of global human rights issues (Takooshian and Shahinian 2008). The reconceptualization of the field of peace psychology, then, appears to be in concert with these changing threats to human security in the world at the turn of the twenty-first century.

Twenty-First Century Perspectives

A conceptual underpinning of twenty-first century peace psychology has been the distinction between the meaning and significance of different types of violence: direct and structural violence (Christie 1997). Direct violence kills or harms individuals and tends to occur episodically; structural violence refers to social inequality in the form of institutional structures that also harm individuals by depriving them of the basic necessities fundamental to human security (Galtung 1969, 1996). Scholarship on the theme of social justice as it relates to human security and practices that promote peacemaking and peacebuilding by embedding programs that address social inequalities into societal structures have been central to the new peace psychology agenda (Wessells 1998).

The field of peace psychology, then, has moved from a somewhat disparate group of peace psychologists in need of defining a cohesive field of inquiry to an established discipline now in the process of broadening the scope of theoretical inquiry and application. While violence and conflict resolution between nations continues to receive attention, the psychological dimensions of violence that are direct and/or structural that involve individuals, groups, and nation states are now the subject of scholarship in the field. Both traditional topics of war and conflict resolution and novel subjects such as intergroup violence, institutional forms of discrimination and oppression, intimate partner violence, gender violence, social injustice, and globalization have become subjects of inquiry (Christie 2011).

Peace psychologists have also become concerned with criticisms of the hegemony of American or westernized psychology and the significance of listening to the voices around the world often marginalized or absent from the psychological literature. Increasingly, contextualizing peace psychology culturally and historically is appearing in scholarly publications. Processes of truth and reconciliation have been prominent in the recent histories of apartheid South Africa (Goboda-Madikizela 2003) and in the revelations regarding the “Lost Generations” of Aboriginal children in Australia (Bretherton *in press*). In sub-Saharan Africa, issues related to ethnic conflict, intrastate rivalry for resources and power, gender violence, and the forced soldiering of children have received attention (Wessells 2007). Asian peace psychologists are concerned with South Asian nuclear tensions between India and Pakistan, in the East between North and South Korea (Leung 2003), as well as the cultural and religious orientations of Asians, their differences from the West, and their influence on peacemaking processes. A history of colonialism and liberation from authoritarian regimes is another key theme (Montiel 2003). These are just a few examples of the perspectives of psychologists across cultures regarding studies of their own histories and societies that now inform contemporary theory building and conceptual formation.

The roles of women in the history of peace movements worldwide and feminist scholarship on a range of issues related to forms of violence have also been identified as important contributors to understanding how exclusivity of perspectives limits knowledge (McKay 1996). Finally, there is also recognition that the field is diminished when indigenous psychologies are not articulated. For example, the conversation about topics such as conflict resolution is compromised when the wisdom that traditional, collectivist cultural practice might contribute is lost (Wessells and Montiero 2000). Societies and individuals under stress are not without their own resources to address dangers to the peaceful resolution of crises. Peace psychologists promote the integration of the resourcefulness of local populations to developing strategic responses to challenges to their societies.

Future Directions

As the field of peace psychology broadens, what are the implications for the future? It would appear that

increasingly multidimensional models of complex systems will need to characterize how peace psychologists will address the challenges of peace and violence in the world. Such models will represent the interconnectedness of systems and histories as they emerge. For example, with human security redefined as comprised not only of physical safety, but the human right to health and well-being as well, issues such as globalization, climate change, gender equality, and the information revolution will require the attention of peace psychologists, as these issues are highly interrelated and their outcomes are likely to potentiate either conflict or conflict resolution. Just as the industrial revolution resulted in inequities between those that have and have not in the past, access to information technology and the impact of global markets today will either add to or ameliorate social inequality and the conditions that promote violence. Climate change and environmental degradation already threaten the existence of island nations and the way of life of millions in the developing world. Addressing these issues on the United Nations' human rights agenda today embodies the commitment of peace psychologists to the study of and advocacy for social justice. Therefore, twenty-first century scholars and practitioners of peace psychology, across social and cultural contexts, will be contributing to understanding and engaging these threats to human security and well-being worldwide.

See Also

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- Social Psychology
- Tolman, E. C.
- Women and Feminism, History of

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Pêcheux, Michel

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Basic Biographical Information/ Major Accomplishments

Michael Pêcheux was a French Marxist social psychologist, psycholinguist, and philosopher. He developed a formal, potentially automatic instrument, which he called *Automatic Discourse Analysis*. He studied at *École Normale Supérieure*, where Louis Althusser and Georges Canguilhem were among his teachers. He was an active member of the left Communist movements. At his tragic death in 1983, at the age of 45 years, he was professor and researcher in the Laboratory of Experimental Social Psychology at Sorbonne University Paris 7 as well as research director at the National Center for Scientific Research. He published many papers and books in the field of social psychology, psycholinguistics, language, philosophy, and the history of human and social sciences.

Pêcheux conceived the constitution of psychology as a result of theoretical rather than empirical breakthroughs, a view he shared with Gaston Bachelard. In a series of articles, he developed the conceptual foundations for a dialectical materialist social psychology. Much of the concepts used in his theoretical framework have been recast, of course, in the light of insights drawn from the works of Marx, Engels, Lenin, Gramsci, and Lukacs and most importantly, in my view, of Soviet psychologists and linguists such as Vygotsky, Bakhtin, and Volovsinov among others. It was Pêcheux who brought to the fore power and ideology concepts in the discourse field. The makeup of language is conditioned by social forces such as social classes, gender, race, ethnicity, etc. Language for Pêcheux is an expression of the ideology of the hegemonic class domination.

Pêcheux summarized his project stating that: "All my work finds its definition here, in this linking of

the question of the *constitution of meaning* to that of the *constitution of the subject*, a linking which is not marginal (for example the special case of the ideological 'rituals' of reading and writing), but located inside the 'central thesis' itself, in the figure of *interpellation*" (1982, p. 105). Pêcheux had elaborated systematically a theory of the materiality of language or a materialist theory of language.

Pêcheux's research framework is of continuing relevance to experimental social psychology, psycholinguistics, possessing as it does much potential for analyzing concrete instances of human higher mental functions, rule-governed behavior, language, disidentification, ideology, and discursive speech analysis.

Pêcheux developed two theses to illustrate the connections between language and ideological formations. In the first he stated that "*words, expressions, propositions, etc., change their meaning according to the [ideological] positions held by those who use them, which signifies that they find their meaning by reference to those positions; that is, by reference to the ideological formations in which those positions are inscribed*" (1982, p. 111). The second thesis Pêcheux stated that "*every discursive formation, by the transparency of the meaning constituted in it, conceals its dependence on the 'complex whole in dominance' of discursive formations, itself imbricates with the complex of ideological formations*" (1982, p. 113).

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Perception

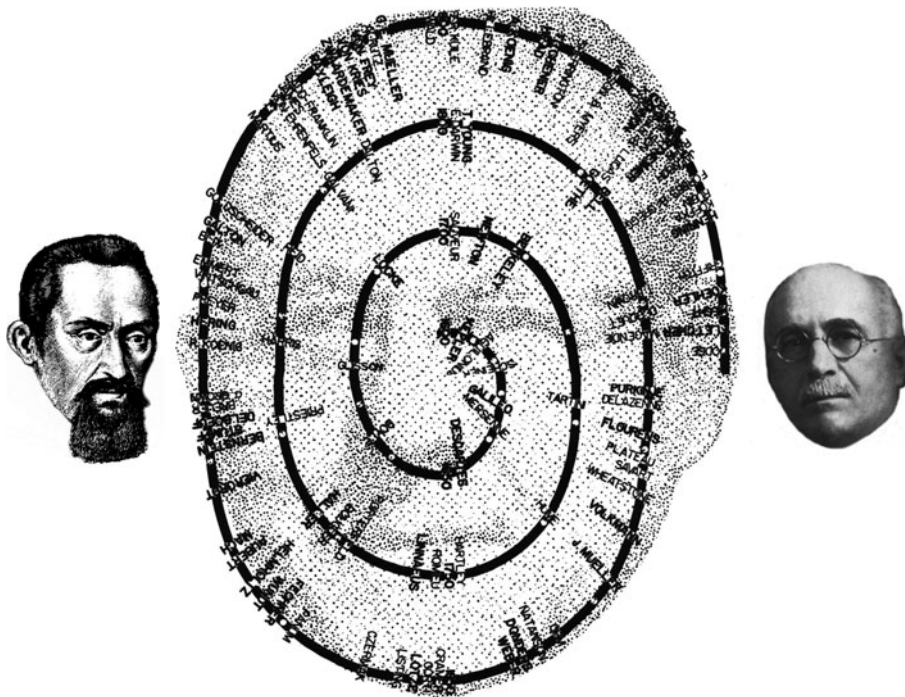
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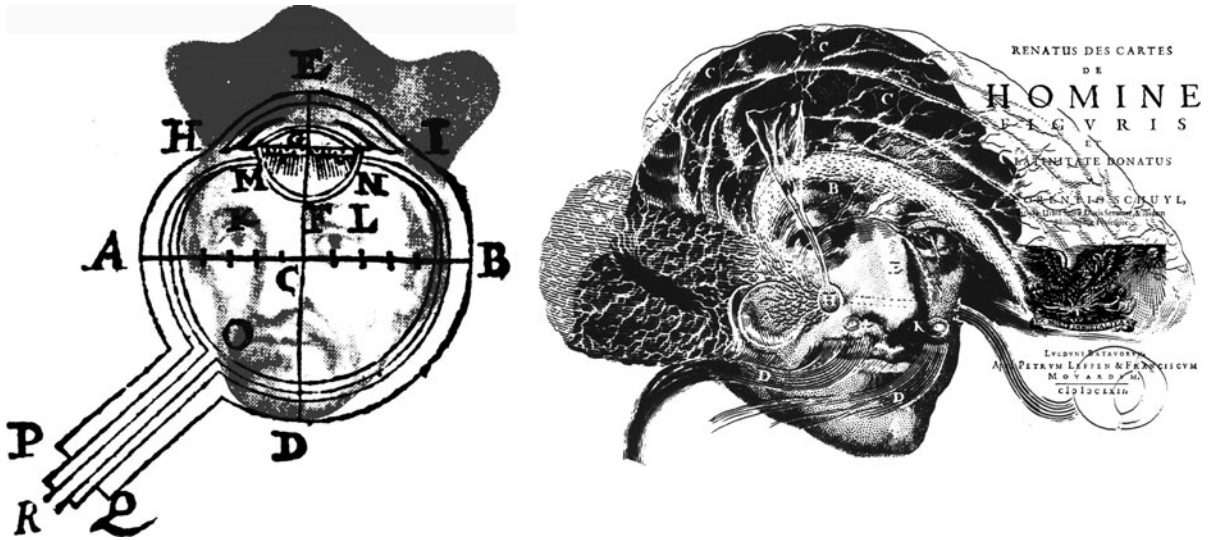
Introduction

In his spiral of the history of sensation and perception, Edwin Boring (1889–1968; 1942) commenced with Johannes Kepler (1571–1630) and concluded with Raymond Dodge (1871–1942); they are all shown in Fig. 1. Another implicit feature of Boring's spiral is that one sense – vision – dominated all the others. Accordingly, it is little surprise that his book was dedicated to Hermann Ludwig Ferdinand von Helmholtz (1821–1874) – a towering figure in the history of vision. A preoccupation with the sense of sight was evident throughout the period surveyed by Boring and it remains so to this day.

Boring was aware that establishing an origin for the study of the senses was problematical since the history of perception is as long as that of description itself. Nonetheless, commencing with Kepler could be justified on several grounds, as he was instrumental in initiating a revolution in the study of vision. Kepler proposed that the eye operated like an optical instrument in which an image is focused on the retina. He also conducted experiments with a water-filled glass globe in order to examine the clarity of images passing through it and projected onto screens at different distances, thereby introducing the issue of accommodation (although that term was not then used in this context). Others, like Christoph Scheiner (1573–1650) and René Descartes (1596–1650), shown in Fig. 2, forged a closer union between the optics and anatomy of the eye, and interpretations of vision took a totally different path thereafter. While the interpretations changed, the phenomena that were scrutinized did not. It is to these that



Perception. Fig. 1 *The spiral of the senses*. The diagram of the spiral is from the inside cover of Boring's book and his portrait is dimly discernable within it. Boring's spiral of history commences with Kepler (*left*) and concludes with Dodge (*right*) (Illustration © Nicholas Wade)



Perception. Fig. 2 *Left: Scheiner's eye.* Scheiner was an astronomer who is enclosed in his accurate diagram from 1619 of the gross anatomy of the mammalian eye; he also observed the inverted and reversed retinal image on the exposed retina of an ox's eye. *Right: Descartes' brain.* Descartes continued Scheiner's integration of optics and anatomy and not only repeated the experiment with an ox's eye, but also illustrated it. He is represented in the engraving of the brain taken from *De Homine*, the title page of which is also shown (Illustration © Nicholas Wade)

we will first turn and to the general problem of what constitutes perception.

What we call “perception” is an experience that results from stimulation of the senses. It can be examined by verbal description and by psychophysical experiment, or it can be related to the processes in the nervous system that accompany the experience. Historically, the only records of action of the senses were provided by behavior but now a wide range of indirect physiological measures can augment them. In humans, the range of behaviors is broad and includes describing the experiences initiated by sensory stimulation and the links it might have with previous stimulations (Wade 2005). We refer to these as observations and we associate them with verbal descriptions. Records of observation precede records of their verbal descriptions; that is, the products of art precede those of writing. Relatively little is known about the origins of visual art: examples of marks made on tools and cave walls have been dated to tens of thousands of years ago, but we do not know when such activities began. Writing had its origins around 5,000 years ago. Verbal descriptions of observations were refined by Greek philosophers, who also introduced theories to account for the characteristics of perception (Symons and Calvo 2009).

Aristotle (ca. 384–322 BC) provided descriptions of numerous natural phenomena amongst which were those following stimulation of the senses (Ross 1931). He can be thought of as setting in train the observational tradition: perceptual experience is confined to naturally occurring events and interpreted within the theory of the day. The adoption of experimental methods to record observations developed somewhat later. An early example can be found in the work of Claudius Ptolemy (ca. 100–170) on optics (Smith 1996), but it was more widely adopted after the investigations of Isaac Newton (1642–1727; 1704) on color phenomena.

Classification of the Senses

Aristotle described the five senses of sight, hearing, smell, taste, and touch, and they are rooted in our culture despite clear evidence of the inadequacy of the ancient classification. The prominence of eyes, ears, nose, and tongue on the head, and the specific experiences associated with them, has acted in the past, as well as in the present, to fix these four senses. Touch was problematical because its sensitivity is not localized to a particular sense organ, and the experiences derived from the skin are diverse. Pain was missing altogether.

Pain and touch both presented problems for classifying the senses, although the ways they were treated differed radically. Touch was taken as the exemplar of all senses whereas pain was given less prominence; it was not included in the list of Aristotle's "common sensibles" which were defined by properties of the stimulus rather than of sensation. For Aristotle, no obvious stimulus could be assigned to pain, other than over-stimulation or damage to the other senses, and so it was placed in opposition to pleasure rather than associated with sense. Neither touch nor pain could be localized in a particular sense organ. Aristotle confronted the particular problems in the context of touch but not of pain. The other encumbrance to advance was ignorance of both the anatomy and physiology of the senses, let alone of the brain. Indeed, for Aristotle, sensation was housed in the heart, although he was later taken to task for this by Galen (ca. 130–200) who argued that all the senses have connections with the brain.

The sources of evidence available to Aristotle for distinguishing between the senses were phenomenology and gross anatomy. The situation was radically revised in the nineteenth century, with developments in physics, anatomy, and physiology. New techniques for stimulating and recording from the senses and for tracing nerve pathways to the brain changed the ways in which the senses could be classified. The criteria that emerged from the new techniques are the quality of the experience, the nature of the stimulus, the gross and microanatomy of the receptor system, and the pathways to and representation on the cortex. The psychological dimension is the oldest of these, and yet less attention has been paid to behavioral evidence for distinguishing and adding to the senses than to that derived from anatomy and physiology.

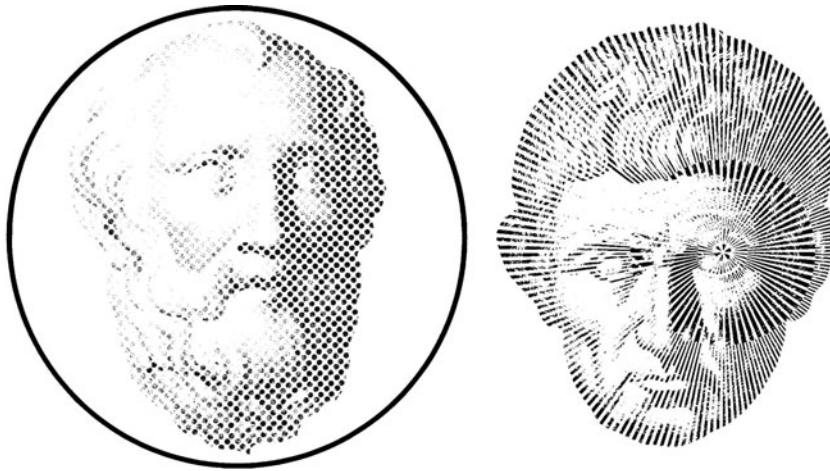
Thus, the senses were at the center of many of the dramatic departures in nineteenth century psychology, and the experimental advances in turn influenced theories of perception (Gordon 2004; Wade 1998). The color mixing experiments by Thomas Young (1773–1829) found that all colors could be produced by appropriately compounding three primaries. He suggested that the eye was selectively sensitive to each and James Clerk Maxwell (1831–1879) provided experimental support for this trichromatic theory. In the domain of motion, Michael Faraday (1791–1867) suggested how successive images presented in close

temporal sequence could result in the perception of movement and Joseph Plateau (1801–1883) devised a contrivance for synthesizing visual motion. Spatial vision also yielded to the power of this experimental approach: Charles Wheatstone (1802–1875) demonstrated that depth could be synthesized from two slightly disparate images presented to separate eyes, dissociating depth perception from its object base. In the 1830s, Ernst Heinrich Weber (1795–1878) demonstrated that the nuances of sensory discrimination could be measured, by applying what became called psychophysical methods; these were extended to demonstrate lawful relationships between stimulus intensity and sensory magnitude by Gustav Fechner (1801–1887; 1860). By mid-nineteenth century, the study of perception had moved from the natural environment into the laboratory.

Early Theories of Perception

Philosophy has played a central role in the study of perception because the senses and their functions have been of focal importance to philosophy. Most of the basic ideas were initially expounded by Greek thinkers, and they have been elaborated upon by more modern philosophers. Moreover, it was essentially the unusual aspects of visual experience that elicited most early interest (Wade 2005). Of these, three were of particular significance and they influenced theories of light as well as sight. The first concerned the experience of light following pressure or a blow to the eye and the second related to the visibility of a reflected image in the eye. The idea of light being emitted from the eye was founded on the first of these, and the notion of an image being carried back to the eye was the source of the second. A third feature of sight, which distinguished it from the other senses, was that the experience could be terminated by closing the eyelids during daytime.

Plato (427–347 BC, Fig. 3) distrusted the senses because the evidence they furnished about external objects could change; moreover, the objects themselves could change, as in the process of growth. Accordingly, he believed that the world of appearances was one of illusion, as opposed to the world of thought in which ideal forms existed. The forms reflected the universal qualities of objects rather than the particular features which can be sensed. The abstract forms could be



Perception. Fig. 3 *Left: Ideal form*; Plato argued for ideal forms in the mind and these were accessible by rational thought rather than by observation. *Right: Received wisdom*. Aristotle on the other hand embraced observation and added enormously to the range of phenomena that could be studied. In the context of perception, he argued for light being received by the eye rather than emitted from it (Illustration © Nicholas Wade)

investigated by reasoning rather than observation, and this resulted in a preference for rational rather than empirical enquiry. Plato's position demonstrates the influence that language has had on philosophical thought: particular members of a category that are given a single name (e.g., horse) do not reflect their universal characteristics. These ideal forms are permanent and inaccessible to perception because the senses are concerned with particulars rather than universals. Plato distinguished between the body and the soul: the body was part of the material world whereas the soul was immaterial. He likened the rational soul to a charioteer steering the competing horses of emotion and appetite; the rational soul was considered to be morally superior to the others and should guide their actions. These distinctions were to have considerable significance because they later permeated both philosophy and Christian theology. Mind–body dualism was at the heart of Descartes's philosophy as well as a constant current in Christian theology. The latter also placed great emphasis on the moral superiority of reason over irrational feelings and passions.

Aristotle (Fig. 3) adopted more naturalistic explanations of phenomena which did not denigrate the senses. He criticized Plato's theory of ideal forms arguing that the features that distinguish a horse, say, do not have an existence independently of horses; these

distinctive features could best be studied by examining actual horses rather than their ideal forms. Therefore Aristotle preferred an empirical approach to a rational one. He is often considered to be the first psychologist because of his emphasis on observation and because he tried to order phenomena in a systematic manner.

Rationalism

The contrast between the philosophies of Plato and Aristotle can be thought of as that between rationalism and empiricism, and both approaches have been applied to the analysis of perception. The differences between them were brought into sharper focus after the scientific Renaissance in the seventeenth century, when a wider range of perceptual phenomena was scrutinized. Descartes applied mechanistic interpretations to bodily processes while maintaining that the mind was immaterial, thus retaining the Platonic distinction between body and soul. Communion between mind and body was achieved via structures in the brain, particularly the unpaired pineal body (the pear-shaped structure labeled H in Fig. 2).

Descartes's mechanistic approach to the senses clarified many issues in perception, but he had the thorny problem of accounting for the interaction of the rational mind with the mechanistic body. This was a task attempted later by Immanuel Kant (1724–1804).

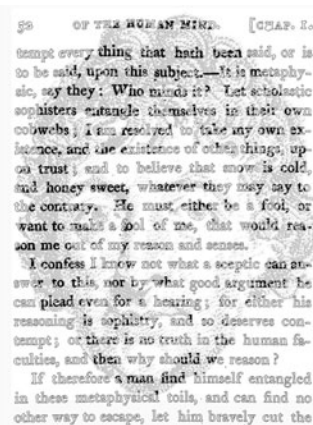
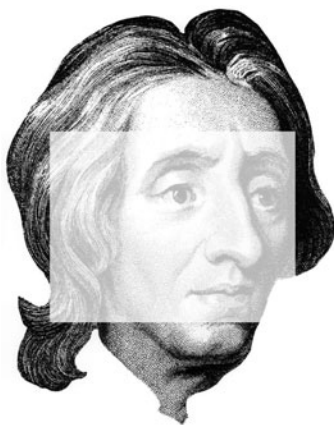
Kant did not deny that all knowledge begins with experience, but he did not believe that it all arises out of experience either. He considered that certain aspects of knowledge were innate, most particularly the ideas of space and time. That is, Kant suggested that the individual is born with the ability to organize experience in both space and time. Perception is then an active organizing rather than a passive receptive process. Kant's influence on Continental philosophy was vast, but it also had numerous repercussions in related disciplines like physiology and psychology. The distinction between innate and learned processes in perception became enshrined in nativist and empiricist philosophies, respectively. The nativists believed that we are born with the ability to perceive space, whereas the empiricists argued that we have no such knowledge of the world at birth, but we need to learn to see the spatial attributes like size, shape, and distance. For Kant our conscious, phenomenal world is a cognitive construction. He made a distinction between the world of things and that of appearances, and was pessimistic about whether the latter (and hence psychology) was open to scientific enquiry. That is, he did not consider that the inner world was open to precise measurement, and therefore its study could not be classified as a science.

Empiricism

Modern empiricist philosophy was expounded by John Locke (1632–1704; Fig. 4) at the end of the seventeenth

century. For Locke the mental element is the idea, which is based upon sensory experience. Ideas could be simple (like whiteness) or compound (like snow), and compound ideas are made up from associations between simple ones, by a process like “mental chemistry.” Similar associative links can account for our ability to generalize across stimuli: for instance, to form a general idea of a triangle from many different specific instances. Thus, Locke was an empiricist and an associationist: knowledge derives from the senses and we learn to perceive the objects in the world by association.

Locke charted the course for empiricism, but many of the details were provided by later philosophers, two of whom will be mentioned briefly here. George Berkeley (1685–1753; Fig. 4) argued that we learn to perceive the dimensions of space by associating muscular sensations with those of vision. In order to perceive distance visually, we learn the relationship between the visual stimulation and the states of the muscles controlling the eyes. The muscular and touch systems were considered to provide direct and undistorted spatial information that could be used to teach vision the dimensions of space. Berkeley (1709) refined the empiricist philosophy of Locke by arguing that appearances are all: to be is to be perceived – *esse est percipi*. That is, the matter from which materialism is constructed is itself open to question. If all we have are our perceptions, how can we prove the existence of



Perception. Fig. 4 Left: *Tabula rasa*; a portrait of Locke with a blank sheet covering his senses. Center: *Berkeley's Esse*, in which Berkeley's face exists if it can be perceived. Right: *Common sense philosopher*; Reid is partially hidden in his text emphasizing his belief in the reality provided by the senses (Illustration © Nicholas Wade)

an external world? A problem with this position is that if perceptions are transitory so is existence. Does an object cease to exist when the eyes are closed? Berkeley sought to salvage this slide into solipsism (that nothing other than one's own ideas exists) by arguing that God alone perceived an external reality. Despite this idealist stance, Berkeley made important steps toward understanding how we perceive space, and how the different spatial senses are integrated.

Thomas Reid (1710–1796; Fig. 4) reacted to Berkeley's idealism by arguing that the evidence of external reality is provided by the common activities of the senses and is supported by common sense intuition. Reid founded the Scottish common sense school of philosophy, whose ideas were to be influential in the development of psychology in America in the nineteenth century. The school was opposed to associationism, particularly when it was couched in physiological language. Reid also proposed a faculty psychology; faculties were innate properties of the mind which exerted control over habits, or behavior. His descriptive psychology could be studied by reflection on mental activity, by an analysis of the use of language, and by observations of behavior. He provided a bridge between the extreme rationalists and empiricists. His belief in the power of reason was tempered by a desire to accumulate evidence empirically. Reid is perhaps best remembered because of the clear distinction he made between sensation and perception. Thus, redness and roundness may be sensations produced by an apple, but its perception includes an appreciation of the object itself. Perceptions also involve projective aspects that are not present in sensations: the apple is perceived as being out there, but the sensations can be internal. Reid's distinction has had far-reaching consequences, and it has persisted to the present; it has pervaded our language and it even defines the categories of our enquiries.

Empiricist philosophy was initially confined to Britain, but its widest influence has probably been through its adoption beyond Britain's shores – particularly by Helmholtz in Germany and John Watson (1878–1936) in America. Boring (1942) remarked that Helmholtz carried the torch for philosophical empiricism in a hostile Kantian climate, as did his erstwhile assistant Wilhelm Wundt (1832–1920). However, their brands of empiricism were quite

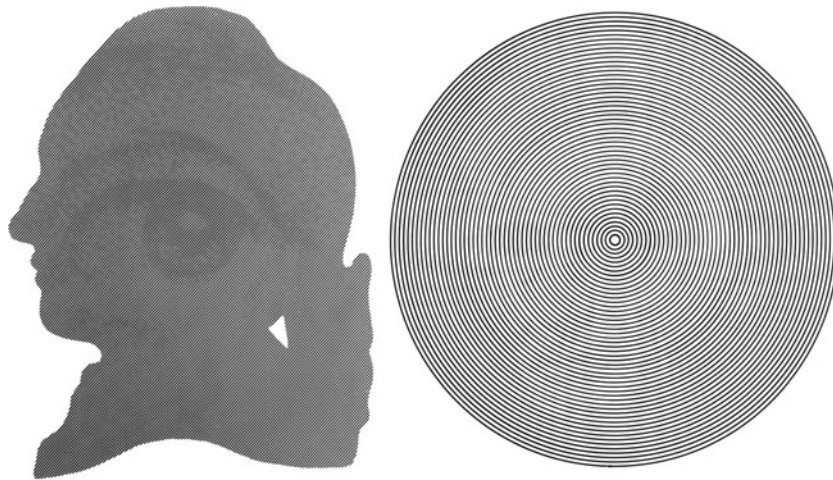
different. Helmholtz developed the notion of unconscious inference to account for characteristics of color and space perception, and the concept is still active in some theories. Wundt (1874) was more ambitious and applied empiricist and associationist ideas to account for consciousness itself. His ideas were carried to America by the likes of Edward Titchener (1867–1927), whose structuralist theory was not widely followed and opposed by the theories of both Gestalt and behaviorism.

Nineteenth Century Influences

Discussions of space and time continued to be grist to the philosophers' mill throughout the nineteenth century, but they were afforded instrumental and experimental assistance that extended their scope. It can be argued that the evolution of psychology as an independent discipline was in a large part a consequence of addressing philosophical questions concerning the perception of space and time by recourse to experiment rather than exposition.

Phenomenology

Perceptual experience has always been described in words, when possible, but this has not been the only way of assessing it. Language reflects the nuances that can be applied to the richness of perception, and it has been considered by some, like Johann Goethe (1749–1832; Fig. 5), to be the most appropriate vehicle for conveying experience. Goethe (1810/1970), in line with many Romantic philosophers, rejected the experimental approach to the study of nature because it was too constrained. In its place he proposed the astute and intuitive observation of natural phenomena, setting in train the method of phenomenology. This is best seen in his 1810 book *Zur Farbenlehre*, which contrasted his observational approach to color with what he considered to be the physicalism of Newton. The purity of white light was taken to be fundamental and indivisible, rather than white being a mixture of different colored lights. Goethe chose to observe and describe instead of experiment on color vision. He distinguished between what he called physiological colors (the experience of color) and physical colors produced by optical refraction. Goethe's theory of color was never taken seriously by the scientific community, but his observations have rarely been challenged. He described many



Perception. Fig. 5 Left: *Romantic eye*; a silhouette of Goethe encompassing his observant eye. Right: *Sehen in subjektiver Hinsicht*; Purkinje's features are dimly discernable within the pattern of concentric circles, the distortions of which he described (Illustration © Nicholas Wade)

phenomena like positive and negative color afterimages, irradiation, color shadows, and color blindness, in addition to contrast effects – both in the chromatic and achromatic domains.

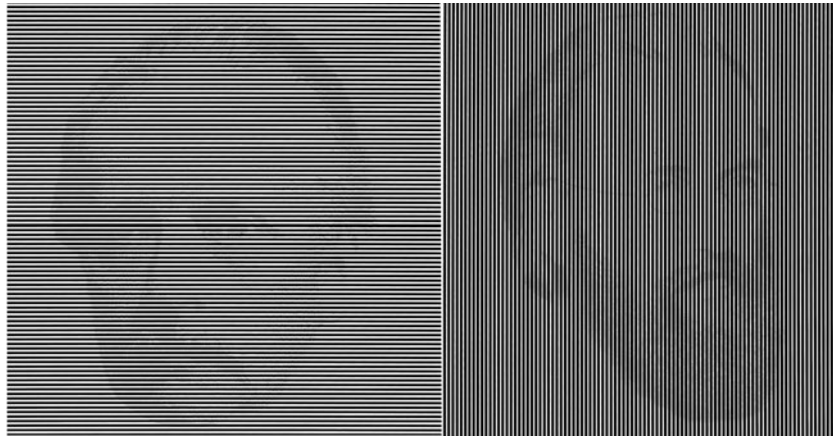
Phenomenology was given a more methodological twist by Jan Purkinje (1787–1869; Fig. 5), whose interests in vision were stimulated by reading Goethe's analysis of color. Purkinje was encouraged in his researches by Goethe because of his use of the phenomenological description. As a medical student Purkinje investigated subjective visual phenomena in part because he did not have access to any physiological apparatus, but also because he believed that visual illusions revealed visual truths. Most of his experimental research in both physiology and histology was conducted in Germany, but at the age of 63 he was called to the chair of physiology in Prague. He was followed in that chair by Ewald Hering (1834–1918; Fig. 6), who also embraced phenomenology.

Nativism Versus Empiricism

The contributions made by Helmholtz (Fig. 6) to visual science are legion, but his most lasting impact was his theory of perception (Cahan 1993; Helmholtz 2000). For Helmholtz, the brain only had indirect access to the external world, via the senses, and it could only process messages in the language of nerve impulses. This realization made any equation of the retinal image with

perception unnecessary, and it removed a problem that had frequently been raised earlier, and was to return later: if the image on the retina is inverted and left–right reversed, why is our perception not so? Helmholtz argued that this only created a problem if there was a picture in the retina that required further perception. If all that is available are nerve impulses then the brain can analyze them and make the appropriate inferences independently of the orientation of stimulation with respect to the retina.

Helmholtz acknowledged that little he wrote on theories of vision was novel, but he marshaled the arguments over a wider range of phenomena than others had done before. By adopting a starkly empiricist interpretation of perception, and by contrasting it so sharply with nativism, he reopened a debate that has reverberated throughout perception ever since. The debate was personified in the conflict between Helmholtz and Hering, and the main battle-grounds were color vision and stereoscopic depth perception (Turner 1994). Hering was a physiologist whose psychology was in the tradition of Goethe. He represented the phenomenological and nativist position in studying perception. Like Goethe, Hering stressed the subjective dimension of color, and he based his opponent-process theory on color appearances rather than on mixing lights of different wavelengths after the manner of Helmholtz. He also examined simultaneous and successive color



Perception. Fig. 6 *Visual opposites*. Helmholtz (left) and Hering (right) presented opposing interpretations of a range of phenomena, from color perception to binocular vision. Helmholtz also described the differences in the apparent sizes of squares comprised of vertical and horizontal lines (Illustration © Nicholas Wade)

contrast phenomena. Together, these led him to propose a theory of color vision based on three oppositional pairs: red-green, blue-yellow, and white-black. He speculated that there are three retinal pigments that are either built up or broken down by light to yield the six elements.

The psychology of the senses led Helmholtz into the metaphysical domain he had assiduously avoided in his physical and physiological endeavors. The philosophical problems remain a matter of constant revision and reanalysis, but many of the issues concerned with the senses that were debated in Helmholtz's day became the topics of experimental enquiry in the then new discipline of psychology.

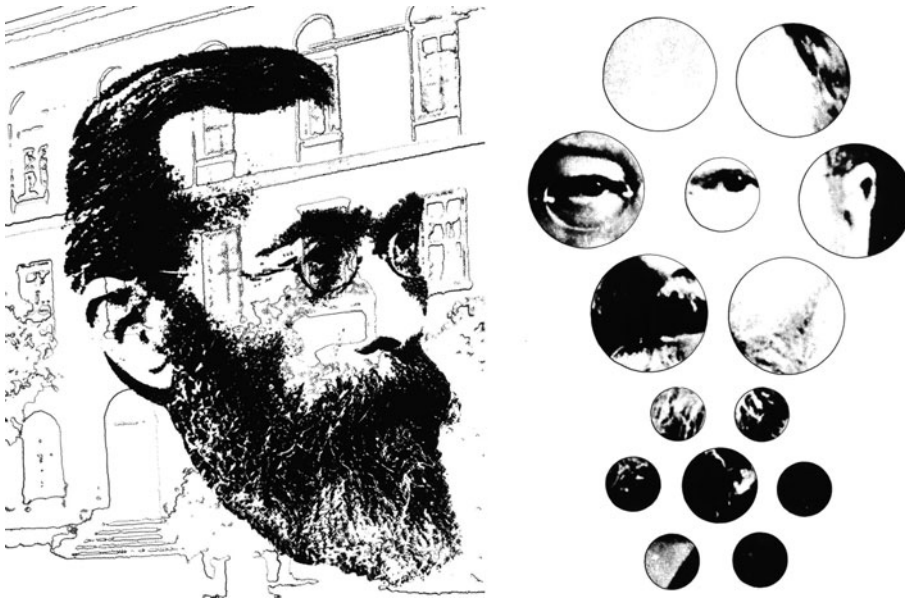
Wundt and Structuralism

Psychology, as an independent discipline, is considered to have been founded in 1879, when Wundt (Fig. 7) opened his Psychological Institute at Leipzig University. Prior to this, psychology was allied principally to philosophy, although perception was often the province of sensory physiologists (Müller 2003). Wundt saw the task of his new institute as that of studying conscious experience. What distinguished his approach from the many earlier ones addressing the same issues were the methods employed. Psychology came of age when it developed its own methodology: the problems of consciousness and perception were examined in novel ways using novel instruments, and psychology

became an experimental discipline rather than just an observational one (James 1890). Perception has followed the theoretical fashions of psychology generally, ebbing and flowing as the subjective dimension waned and waxed in importance.

Wundt rejected phenomenology and introduced a technique that is now called analytic introspection – the controlled analysis of mental events. He distinguished between the mediated experience available to the physical sciences and the immediate experience investigated by psychology. His use of introspection to study the latter resulted in the proposal that sensations and feelings were the elements of consciousness. Sensations could be combined to yield perceptions, but for these to influence behavior they required attention: the voluntary control of attention to focus on aspects of perception was termed *apperception*. It was the active role played by attention that could rearrange perceptions to form a creative synthesis. Wundt was an empiricist and an associationist interested in the universal aspects of conscious experience; the application of psychology to real-world issues held little appeal for him.

Observers had to undergo extensive training before they were considered to be skilled at analytic introspection. By using this method, Wundt believed that he could determine the elements from which perceptions and thoughts were constructed and he was greatly influenced by Locke's ideas about mental chemistry. Wundt was trying to isolate the basic elements and to



Perception. Fig. 7 Left: *The Institution of Psychology*. Wundt is shown framed by the building that housed the original Institut für experimentelle Psychologie in Leipzig. Right: *Structuralist*. Titchener can be seen in circles that constitute his eponymous contrast illusion: the two central circles are the same physical size but the lower one appears larger (Illustration © Nicholas Wade)

determine the rules for their combination into more complex perceptions and thought, and this approach was later called structuralism. The basic elements were taken to be the sensory attributes (like quality and extension), and these could be combined to make the molecules of perception; the combination was achieved by a process of association. Perception represented a synthesis or building up of the sensory attributes via learning by association, whereas the method analyzed or broke down complex perceptions into their component sensory attributes.

Wundt attracted many graduate students from the USA, where psychology was forging a strong foothold. One of his students, Titchener (Fig. 7), was from Britain but carried Wundt's method and theory to America. Titchener employed introspection to uncover the structures of human consciousness, thereby giving structuralism its name. The elements of consciousness were said to be sensations, images, and affections. These elements could be isolated by a method of introspection that excluded the use of object names, because describing the meaning of objects introduced "stimulus error." Most of his experimental work was directed at the analysis of sensations, which had the attributes of

quality, duration, intensity, extensity, and clearness. Ideas and emotions derived from associations of images and affections, respectively.

Twentieth Century Developments

The advances in the experimental psychology of perception throughout the nineteenth century were driven by the invention of novel instruments that could be used within the laboratory. That is, the study of perception moved from the natural environment into the laboratory where the well-tried methods of physics could be applied to the examination of perception. However, toward the end of the twentieth century, the armory of instruments was replaced by a single device—the computer. The implications of this technological revolution were enormous but they did not play a part in the theories that were formulated in response to the impact of Wundt at the beginning of the century.

Gestalt Psychology

By the early twentieth century, there was widespread disaffection with Wundt's method and its attendant theory, and alternatives were sought. Two major reactions that appeared in the second decade were Gestalt

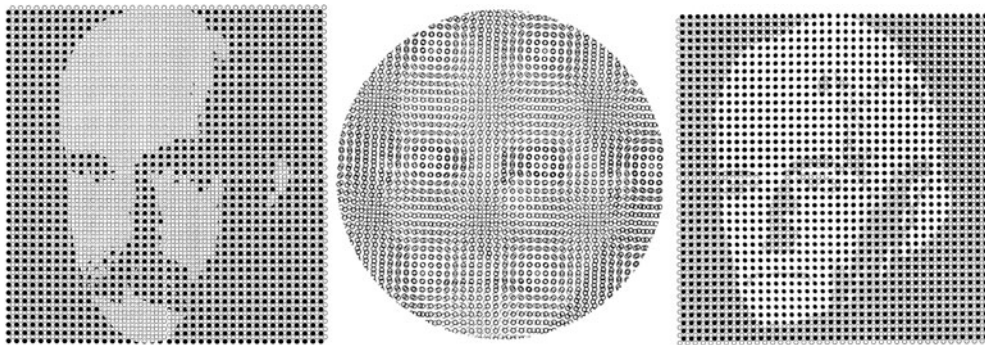
psychology and Behaviorism. Gestalt is a German word that can be translated approximately as configuration, but the German term is retained because of the difficulty of capturing its nuances with a single English word. Gestalt psychology had its origins in perception but its ambit extended throughout the whole of psychology (Ash 1995). Its precursors were to be found in Kant's innate categories of space and time, and in Goethe's phenomenology. The Gestaltists main opposition to Wundt's structuralism was theoretical – they did not accept that unitary perceptions could be analyzed into smaller parts. Indeed, the cliché associated with Gestalt psychology is that “the whole is different from the sum of its parts” – thus, the perception of a square is different from the separate effects of its four constituent sides.

Max Wertheimer (1880–1943; Fig. 8) redefined psychology as the study of configurations or *Gestalten*. He conducted a series of experiments on apparent movement – motion seen between two stationary and separated stimuli when presented in rapid succession. The inability to distinguish between real and apparent motion was taken as damning any approach that explained perception in terms of its successive sensations. Not only was it said that the whole is different from the sum of its parts, but the perception of the whole is prior to that of its parts. Publication of Wertheimer's thesis on the phi phenomenon, in 1912, is taken as the origin of Gestalt psychology; it was principally concerned with perception, and a range of robust phenomena was devised to support its holistic

nature. Much of its attraction lay in the power of the perceptual demonstrations.

Kurt Koffka (1886–1941; Fig. 8) was the second member of the Gestalt triumvirate. He used Gestalt concepts in studies of development and thinking, and he made American psychologists aware of the new movement in his writings and lectures on Gestalt psychology in the USA. Koffka did pose the fundamental question of “Why do things look as they do?” He also emphasized that visual perception is three-dimensional and that our perception is in terms of the object properties (the distal stimulus) rather than those at the receptor surface (the proximal stimulus). The third member, Wolfgang Köhler (1887–1967; Fig. 8), introduced the concept of field forces operating in both perception and in its underlying neurophysiology: brain processes were considered to be isomorphic (having the same form) with the percept, so that principles of brain function could be inferred from perceptual phenomena (Köhler 1930). He developed a speculative neurophysiology based mainly on the principles of perceptual grouping and on his experiments with figural aftereffects. His speculations probably did more to hasten the demise of Gestalt theory than any other factor: neurophysiologists failed to find any evidence for such fields of electrical activity in the brain, and so tended to dismiss Gestalt theory in general rather than Köhler's unsuccessful attempt at neuroreductionism in particular.

The Gestalt psychologists formulated some descriptive rules for perceptual organization and produced



Perception. Fig. 8 *Good figures*. The portraits of Wertheimer (left), Koffka (center), and Köhler (right) are all composed of small circles. It is from combinations of filled and unfilled circles that Wertheimer demonstrated his principles of perceptual organization in 1923 (Illustration © Nicholas Wade)

a wide range of demonstrations that could be used to support them. The principles were described by Wertheimer in two papers published in 1923; they appeared in the journal *Psychologische Forschung* (later renamed *Psychological Research*) which the Gestalt psychologists founded to propagate their theory.

Cognitive Approaches

In the second quarter of the twentieth century, most research in perception was conducted by Gestalt psychologists, initially in Germany and later in America, where it challenged the prevailing climate of behaviorism. At the same time, an alternative approach was being developed in relative isolation in Britain, and it has had a profound effect on the shape of modern perceptual research. Frederic Bartlett (1886–1969; Fig. 9) examined perception in realistic and dynamic situations and he represents a continuation of the British empiricist tradition with his analysis of perception as a skilled activity (Bartlett 1932). He rejected the application of stimulus–response interpretations of complex tasks (like playing cricket or tennis) because the actions were highly organized and initiated in advance of any contact with the ball. Indeed, the actions were made with respect to the position the ball would be predicted to occupy at some short time in the future. Complex activities of this type indicated

that behavioral sequences had to be programmed in advance and coordinated with predictions based on perception. This led Bartlett to a cognitive theory of perception, one in which the division between perception and thought was difficult to draw. Like Helmholtz, Bartlett considered that perception was like problem solving, incorporating processes of inference but also of prediction. Bartlett rejected associationist models of perception and memory and his cognitive theory provided a middle road between those of the molecular behaviorists and molar Gestaltists. He can be seen as ushering in the cognitive revolution that was eventually to replace behaviorism, although his work was neglected in America until the 1950s (Gardner 1987). In order to make predictions that involve action we need to have some mental representation of the environment in which the action will take place. This concept of forming a mental model of the world in which we behave was proposed by Kenneth Craik (1914–1945; Fig. 9), and it is one of the ideas that has proved important in the development of both cognitive and computational theories of vision. The machine metaphor has proved to be particularly attractive to experimental psychologists. Craik (1943) was only able to enlist relatively simple machines, but his insight lies at the heart of the cognitive revolution that was to sweep through psychology. His concern with prediction rather than reaction (shared with Bartlett) reflected

mass results of past changes of position and posture are actively doing something all the time; are, so to speak, carried along with us, complete, though developing from moment to moment. Yet it is certainly very difficult to think of any better single descriptive word to cover the facts involved. It would probably be best to speak of 'active, developing patterns' but the word 'pattern' too, being now very widely and variously employed, has its own difficulties; and it, like 'scheme', suggests a greater articulation of detail than is normally found. I think probably the term 'organized setting' approximates most closely and clearly to the notion required. I shall, however, continue to use the term 'scheme' when it seems best to do so, but I will attempt to define its application more narrowly. 'Scheme' refers to an active organisation of past sensations, or of past experiences, which must always be supposed to be operating in any well-adapted organic response. That is, whenever there is any order or regularity of behaviour, a particular response is possible only because it is related to other similar responses which have been serially organised, yet which operate, not simply as individual members coming one after another, but as a unitary mass. Determination by scheme is the most fundamental of all the ways in which we can be influenced by sensations and experiences which occurred some time in the past. All incoming impulses of a certain kind, or mode, go together to build up an active, organised setting: visual, auditory, various types of cutaneous impulses and the like, at a relatively low level; all the experiences concerned by a common interest: in sport, in literature, history, art, science, philosophy and so on, on a higher level. There is not the slightest reason, however, to suppose that each set of incoming impulses, each new group of experiences persists as an isolated member of some passive patchwork. They have to be regarded as constituents

as mentioned above one of the characteristics of memory for perception is the recognition of identity or of similarity. To designate a thing is surely to state so in internally or externally, at the 'same time' so which we regard as a previous occasion. In the above sense mechanical devices can show some degree of recognition. A photocell can respond in the same way to spots having the same colour, a penny-in-the-slot machine to similar coins, and so forth. Men and animals are capable of much, but of much more. The progressive stages of recognition may be classified as: (1) Those in which all the conditions of stimulation, as a whole, within the limits of discrimination existing at the time. (2) Those in which there are differences in the perceptual stimulation, such as these may be 'corrected' by comparison with past ones so as to lead to the production of an idea or pattern of current stimulation; (3) Those in which such correction is inadequate, so that there are points of difference between the stimulation on two occasions, these points of difference being perceptible by the organism, yet the thing being used as the same in certain important aspects; and (4) Those in which the differences extend to all discriminatory qualities and physical constituents, so that the nature of the two objects is confined to some abstract characteristics such as transparency, number, and other spatial or temporal relations or vague qualities such as industrial difficulty.

PERCEPTION AND COMMUNICATION

Monitoring of several channels with response to one at a time.—The situation which we will now consider is much closer to real life than those which have gone before. In the present case the listener hears speech from a number of different sources, but ignores any messages which are not for him. He is therefore carrying out a combination of the two simpler tasks: he may listen to two call-signs simultaneously, but then can ignore one message and deal only with the other. As before, he is interested largely in central processes which may apply to psychology in general rather than to hearing alone. It is more difficult to be sure of the relative roles of sensory and central processes in this case than it was in the simpler ones, but some such distinction can be made by considering the types of score and the effect of individual differences. The comparatively few results from this type of stimulation on the effect of varying the amount of information presented to the subject. Many data are to be found, however, on the familiar question of the physical methods used to present the messages: and in addition there are results on the effectiveness of certain types of message in learning responses. The spatial arrangement of the sound sources is again important. It will be remembered that spatial separation is highly beneficial, but only one message is to be answered, not when both are to receive a response. In the monitoring situation, which combines both the other tasks, separation is on the whole desirable but not altogether so. Webster and Thompson found that six channels were handled better when fed through six loudspeakers rather than through one, and the provision of 'pull-down' facilities was helpful. Sperry, Curtis and Webster found that three loudspeakers were better than one.

Perception. Fig. 9 *Left: Schema*; Bartlett emphasized the constructive aspects of memory and perception as well as introducing the concept of "schemas" into psychology. *Center: Recognition of identity*; Craik was one of Bartlett's students who developed the machine metaphor in analyzing pattern recognition. *Right: Channel capacity* shows Broadbent who analyzed dichotic listening and linked perception more closely with communication (Illustration © Nicholas Wade)

his dissatisfaction with behaviorism. Perception is considered to be a process in which information regarding aspects of the world is analyzed and utilized to plan behavior. This information-processing approach has become widely accepted as perception can then be considered as a sequence of representations that are initially crude and become increasingly appropriate to the three-dimensional environment.

Information in visual patterns could be quantified, and it resided at the boundaries between areas (contours) and where the contours changed direction abruptly (corners). However, it was the qualitative concept of information processing rather than quantitative information measures that was to have lasting appeal. The perceiver was conceived of as a limited-capacity information processor, and the information could be filtered, filed, or reformulated on the basis of stored events. Donald Broadbent (1926–1993; Fig. 9), a student of Bartlett, presented a model that formalized and represented pictorially the putative processing stages in perception, memory, and learning, and it was addressed to the realistic activity of communication (Broadbent 1958). Thus, Broadbent combined Bartlett's approach of examining skilled tasks with Craik's modeling metaphor.

When Bartlett and Craik proposed their theories of perception relatively little was known about the brain mechanisms that mediate perception. This is one of the reasons why the Gestalt psychologists were able to propose their speculative neurophysiology of vision. Craik, as well as Alan Turing (1912–1954), anticipated that the computer would be a powerful tool to simulate theories of perception, as well as providing a metaphor for the processes of perception and cognition themselves. Since the late 1960s, the study of visual perception had been profoundly influenced by computers. As well as allowing scientists to collect or to analyze data more quickly, the digital computer provided a tool for the laboratory scientist to develop new ways of testing the visual system with novel kinds of visual displays.

A similar cognitive revolution took place in America, but a little later. The approach to perception adopted by Bartlett was applied to human operators of complex systems. The experimental research on perception in the 1940s harmonized with developments in cybernetics. Information theory was developed in the context of telecommunications, and the mathematical

measurement of information was formalized in the late 1940s; its powerful impact on perception was felt in the 1950s. George Miller (b. 1920; Fig. 10) linked the concept of limited information capacity to absolute perceptual judgments (Miller et al. 1960). He also allied the processes of perception more closely to those of language, and this was amplified by Noam Chomsky (b. 1928; Fig. 10), a linguist who has introduced a wide range of novel terms into the analysis of language. In Chomsky's transformational grammar, one of the principal distinctions is between the surface and deep structures of a sentence: the surface structure corresponds to the sequence of words as written or spoken, whereas the deep structure refers to their underlying meaning.

During the 1970s, David Marr (1945–1980; Fig. 10) set out to develop a complete framework for vision, spanning the very lowest level processes within the retina up to the process of visual object recognition (Marr 1982). The key feature of Marr's theory was that vision can be understood at different levels. The first "computational" level is a theory of the task that the visual system is to solve, and an understanding of the constraints that can enable solution of that task. The second level, of "representation and algorithm," is a means of achieving the task, and the final "hardware implementation" level describes how the brain, or a computer, actually implements these algorithms in neural tissue or silicon.

In addition to presenting a unified approach to different topics within vision, Marr and his colleagues also presented a theory of the different stages of representation involved in the interpretation of a retinal image. In so doing, Marr distinguished a stage which made explicit the three-dimensional layout of the world with respect to the viewer (the $2\frac{1}{2}$ D sketch), potentially useful for action in the world from the more abstract 3D models which allowed object recognition.

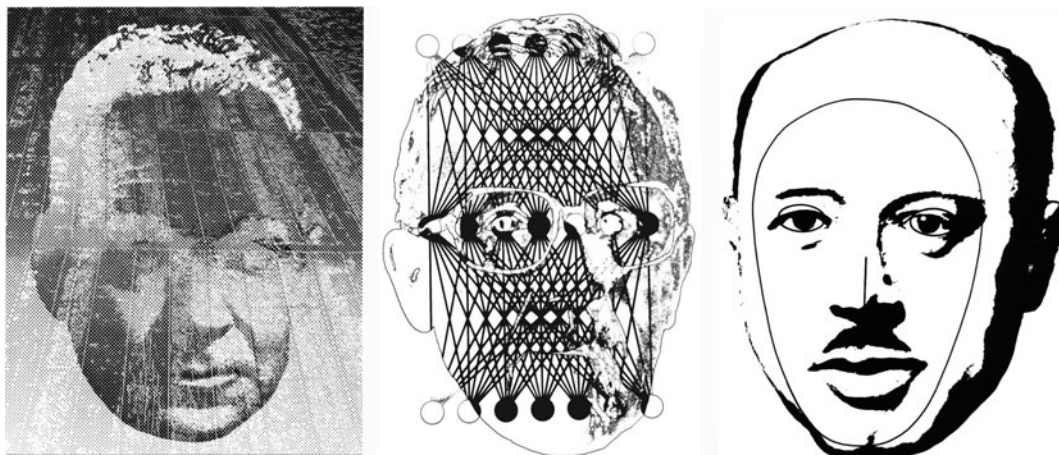
Indirect and Direct Perception

All theories of perception considered so far are what can be called indirect; some mediation between the pattern of stimulation, its effects on the visual system and perceptual experience was implicit – some mode of representation. The term often applied to this was that perception went beyond the information given. This is at the heart of empiricist approaches to perception and is in the organizational principles of Gestalt

in which time was an essential component. That is, the distinction between sensation and perception was abandoned, and perceptual systems afforded useful information for interaction with the external world. Moreover, there was considered to be a perfect



P



Perception. Fig. 11 *Left: Texture gradients* shows the facial features of Gibson within a texture gradient of dots; superimposed on both patterns is a further, ecologically sound, texture gradient – the planks of a pier receding into waters near those lapping Cornell University, where he worked for over 30 years. *Center: Hidden units*; Hebb's face can be seen in the middle (hidden) layer of a three-level network: each cell in the middle layer is connected to every other one in the levels above and below it. *Right: Schematic face*; Brunswik conducted studies on the perception of schematic faces and is portrayed with a one that reflects his own soft, sad, and intellectual features (Illustration © Nicholas Wade)

correlation between the pattern of stimulation and its perception; no stages of representation were involved in perception. Gibson (1966) retained separate perceptual systems which he called orienting, auditory, haptic-somatic, tasting and smelling, and visual. Gibson's ideas established a new field of "ecological" optics which has been tilled by many in recent years.

Gibson called for neither physiological nor computational support for his theory, but one of his contemporaries, Donald Hebb (1904–1985; Fig. 11), was integrating both of these. Hebb (1949), in his speculative synthesis of perception and learning, wove patterns with networks of neurons connecting perception to its underlying physiology. He proposed that perceptual learning takes place when assemblies of cells fire together; their reverberating activity resulted in synaptic changes which further increased the probability of the nerves firing together. The functions of cell-assemblies and phase sequences were based on his neurophysiological postulate: "When an axon of cell A is near enough to excite cell B and repeatedly or persistently takes part in firing it, some growth process or metabolic change takes place in one or both cells such that A's efficiency, as one of the cells firing B, is increased." Hebb later applied the concepts to account for a wide range of phenomena, from stabilized retinal images to sensory deprivation.

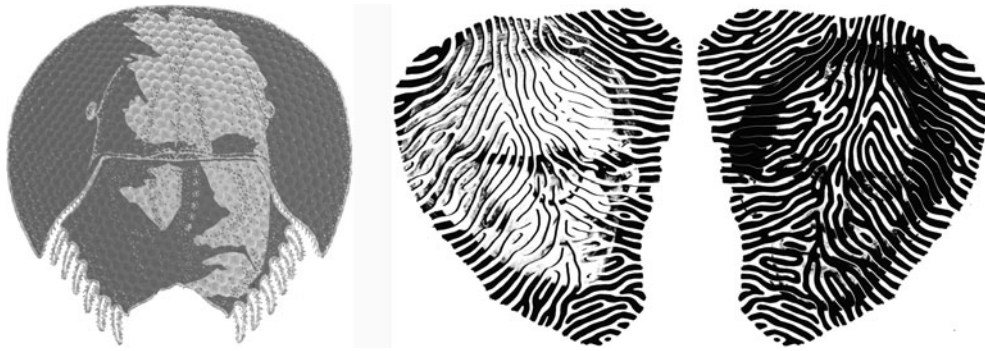
Another indirect theory was proposed by Egon Brunswik (1903–1955; Fig. 11) who introduced probabilistic functionalism into psychology. His was a functionalist theory because it emphasized the adaptive nature of behavior with respect to objects in the environment; it was probabilistic because behavior in an unpredictable environment must be based on the statistical regularities that occur within it (Brunswik 1934). He was influenced by the Vienna circle of logical positivist philosophers and believed that the probabilistic methods applied to the physical sciences were appropriate to psychology, too. He applied probabilistic functionalism principally in the area of perception. He was concerned with how we derive veridical information about objects; how the distal stimulus is perceived as constant despite wide variations in the proximal stimulus. Accordingly, he examined perceptual constancy and devised a formula for assessing it, now known as the Brunswik ratio. Veridical perception was based on the use of a family of cues that differ in

their ecological validity – the correlation between proximal cues and distal stimulus. By experience, greater statistical weight was placed on the cues with high ecological validity.

The Physiological Dimension

Most historical investigations of eyes have been addressed to the image-forming variety of vertebrates. This was so despite the knowledge of many other evolutionary adaptations for transducing light energy. Until the neuron doctrine was firmly established in the 1890s, examination of invertebrate eyes was not considered to offer insights into vertebrate visual processing. The situation was transformed with Haldan Keffer Hartline (1903–1983; Fig. 12) with his studies of responses to light in the horseshoe crab, *Limulus polyphemus*. His pioneering neurophysiological experiments, together with allied investigations of vertebrate visual responses, resulted in the emergence of a new conception of retinal processing: lateral and recurrent interactions, occurring in a complex network of neuronal circuits, were considered fundamental mechanisms for visual information processing.

In the last decades, there have been major strides in furthering our understanding of neural processes in the visual system. These discoveries have been taken to support the view that vision involves a sequence of stages in which different aspects of the stimulus, like color, contour, or motion, are extracted. Research on patterned stimulation at the receptor level had proceeded throughout the first half of the century, but its pace quickened thereafter. The glimmerings of pattern processing beyond the receptors emerged in the 1950s, and were amplified in the 1960s. When recordings of nerve impulses could be made from individual cells in the visual pathway, their adequate stimuli could be determined. It came as something of a surprise that retinal ganglion cells of frog responded to quite complex features of stimulation (like moving dark regions of a specific visual angle, resembling a bug), and stimulus properties that excited or inhibited neurons were generally called "trigger features." Retinal ganglion cells of cat, on the other hand, were excited by rather simpler stimulus arrangements. It was found that they were concentrically and antagonistically organized; if the center was excited by light, the surround was inhibited, and vice versa. Such an arrangement served the



Perception. Fig. 12 *Left: Hartline's Limulus* presents a portrait of Hartline within the carapace of the crab that he claimed for neuroscience and surrounded by the facets of a compound eye. *Right: Feature detectives* shows Hubel and Wiesel enclosed within the pattern of ocular dominance columns that they disclosed in monkey cortex using autoradiography. Hartline was awarded the Nobel Prize in Physiology or Medicine in 1967 and Hubel and Wiesel were accorded the same honor in 1981 (Illustration © Nicholas Wade)

detection of differences in luminance well, but steady states would have little effect, since excitation nullified inhibition. This pattern of neural activity was retained in the lateral geniculate body, but it underwent a radical change at the level of the visual cortex. From the 1960s, David Hunter Hubel (b. 1926) and Torsten Nils Wiesel (b. 1924), who are both shown in Fig. 12, found that single cells in primary visual cortex (V1), first of cat then of monkey, responded to specifically oriented edges; they had different receptive field properties which were called simple, complex, and hypercomplex.

Physiologists refined the stimulus characteristics of trigger features while psychologists sought their phenomenal counterparts. Almost any experiment involving contours paid lip service to Hubel and Wiesel, despite the tenuousness of the links between particular phenomena and their underlying physiology. At least an appeal to trigger features was considered preferable to reliance on the speculative neurophysiology advanced by Gestalt psychologists. The concept of channels or spatial filters emerged during the 1960s, and it was applied with particular rigor by Fergus Campbell (1924–1993) and his colleagues to the detection of and adaptation to sine-wave gratings. The attraction of gratings was that they provided at one and the same time a definition of the stimulus and theory of the response to it.

The 1960s saw the beginnings of a split between a “cognitive” approach, where the goal of vision could

be seen as an abstract categorization of the objects of vision, and an “action” approach, where vision was part of an integrated system allowing manipulation of and navigation through the world. This distinction has matured in contemporary approaches to vision, both through the influence of Marr, and through further developments in neuroscience and neuropsychology.

Future Directions

Perceptual theory in the twenty-first century is developing along many lines. Perhaps the two most prominent are the trends toward mathematics and mental modelling. The first is expressed in several strands. On the one hand, emphasis on inferential processes in perception, exemplified by Brunswik's probabilistic functionalism, finds more concrete expression in Bayesian approaches to perception. On the other, neo-Gibsonians apply increasingly sophisticated analyses of stimuli that change over time (events), particularly in naturalistic settings. Mental modelling is reflected in the imaging and computational strands. Advances in brain imaging, and the computer software associated with it, have resulted in proposals for localizing perceptual functions at more specific brain sites. Computational models of both pattern recognition and robotic control inform perceptual theory as well as being driven by it. Perception, particularly visual perception, will increasingly be integrated with motor activity and this will be reflected in both theory and experiment.

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Pestalozzi, J. H.

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Johann Heinrich Pestalozzi (January 12, 1746–February 17, 1827) was born on January 12, 1746, in Zurich, the German-speaking part of Switzerland. He made contributions as a social critic, political reformer, and teacher and is widely regarded as a forerunner of humanistic education.

Biography

Pestalozzi was born as one of four children of a physician, who died early, and subsequently Pestalozzi was raised by his mother. Pestalozzi aspired to study protestant theology and step into his paternal grandfather's footsteps to become a pastor. In his late adolescence, Pestalozzi connected with his ability to write, and at age 19 he published for the first time and remained a productive writer for more than 60 years (Pestalozzi, 1804/1912; Pestalozzi, 1951). During his educational years he was strongly influenced by the Romanticist philosopher Jean-Jacques Rousseau and decided to reorient his career toward the study of law and politics. Rousseau's romantic idealizations of the rural life inspired Pestalozzi, and a few years after entering the path of an administrative professional, he left his position. In 1769, aged 23, he acquired *Neuhof*, a farm house and some land and tried his hand at agricultural pursuits, which failed due to his lack of training and experience in that area. He married his wife, Anna, the same year and their only child, a son, was born shortly thereafter. Pestalozzi attempted to start a school for neglected and impoverished children at Neuhof; however, the funds that his friends initially provided dried up, and he had to close the orphanage (Hunziker 1887). Pestalozzi was living with his family in poverty when he started to write his first principal volume *Leonard and Gertrude* (Pestalozzi 1781/1896),

which was published on 1781 and was well received, especially in Germany. Through the ensuing 40 years, Pestalozzi became a famous advocate for emancipatory education throughout Europe. He devoted himself to practicing in various educational settings in Switzerland and integrating his practical experience with a maturing theory of education. Pestalozzi published his most important book *How Gertrude Teaches Her Children* (Pestalozzi 1801/1898) in 1801 before retiring to Neuhof in 1825, where he died 2 years later remaining active until his 80s.

Pestalozzi's Theory of Development and Education

Pestalozzi's most important contribution is that he not only embraced the ideas of Romanticism and applied them to education, but he also was consistently striving toward practical applications. His methods evolved out of the ongoing interaction between real-life education and humanistic ideals.

Pestalozzi's personal experience of poverty following his father's death shaped his concerns with providing for the needy and offering them respect and education as a tool to provide for themselves (Silber 1960). He was a dedicated humanist, and many of the ideas Pestalozzi presented seem self-evident today; however, they were revolutionary in his days, such as offering schooling free of charge to all children. Pestalozzi also emphasized love and respect for children, and in opposition to his contemporaries, he opposed severe and corporal forms of punishment.

The so-called Pestalozzi method stressed the need to educate the whole person, including emotional, moral, social, and intellectual aspects. The method encourages direct exploration and observation. Children need to learn through their activity, and it was seen as counterproductive to present them with theories and books early, and offer ready-made answers that stifled their natural curiosity. Pestalozzi's approach to education placed emphasis on individual differences, and that children need to find out what is right for themselves. Love and emotional support are the means of helping them actualize their innate potentials. Education is the unfolding of the natural powers and faculties latent in every human being.

Pestalozzi saw the education of the child as the means to achieve social change. The goal was to attain

the ideals of the enlightenment and establish a morally superior society, where poverty can be eradicated because the citizens acquire wage earning skills and moral aspiration early in life. In Pestalozzi's utopist vision, the family, the school, the community, and the state are nestled, concentric circles that mutually support each other and provide the social and emotional supports that human beings need to thrive and make meaningful contributions through their work.

Pestalozzi's ideas influenced the educational system in Prussia, and later translations of his works lead to the adoption of his methods in some Canadian and American schools.

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Phenomenological Psychology in The Netherlands

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Phenomenological philosophy, as formulated by the German philosopher Edmund Husserl, was immediately relevant to psychology because Edmund Husserl

made a point of distinguishing phenomenological philosophy from a phenomenological psychology. Husserl, the most important founding figure of modern phenomenology, in turn distinguished phenomenological psychology from experimental or scientific psychology. Hence, the interrelationship between phenomenology and psychology was on the table from the very beginning of phenomenological philosophy's emergence in German universities. Scholars in the Netherlands were among the most receptive in exploring the possibility of a phenomenological psychology as an adjunct or addition or even replacement for experimental psychology. The Dutch role in the history of phenomenological psychology was unique and relevant to the spread of phenomenological psychology to the United States.

Phenomenology or phenomenological philosophy in Husserl's (1900–01) sense of the *Logical Investigations* was a thesis about the nature of consciousness that eventually was meant to be a grounding for all of philosophy. In that work, Husserl called phenomenology a “descriptive psychology” of consciousness. This was an attempt to create a distinction between the foundations of logic and the foundations of knowing in thought. This could not be a psychological foundation but had to be a foundation independent of any psychological considerations. This would develop by the time of Husserl's 1913 book *Ideas* into a “pure phenomenology” or a “transcendental phenomenology” which suspends all transcendental claims (Spiegelberg 1965). In addition to this pure phenomenology there was also a phenomenological psychology. This continual clarification of the relationship between psychology as conceived by the new scientific psychology of the early twentieth century and a phenomenological psychology would continue to occupy Husserl until the very end of his life. In his last work, *The Crisis of European Sciences and Transcendental Phenomenology*, published in 1936 Husserl once again differentiates the two kinds of psychology (Husserl 1954 (1970)). Transcendental philosophy differentiates itself from psychology because the latter is merely the realm of the human ego, of mundane knowledge, whereas the former is the location for investigating the intentional structure of meaning. Hence, phenomenology is the foundation of psychology and goes beyond it to locate the human ego in the transcendental realm.

Although Husserl discussed the shortcomings of psychology, he left open the possibility of a phenomenological psychology without ever specifying how it actually might be constituted in practice. After World War II a number of scholars, almost all of whom were located in the Netherlands, began to articulate a movement that would form a new phenomenological psychology based on Husserl's phenomenological philosophy. This movement took place in the 1950s and preceded the later interest in a phenomenological psychology in English speaking parts of the world, which did not reach fruition until the 1960s and 1970s. This latter movement, however, was much more diverse, concerned itself with “experience” broadly speaking and was less concerned with a phenomenological psychology, properly speaking, and hence will not concern us here.

The Institutional Context

The unique appearance of a phenomenological psychology in mid-twentieth century Europe has been well documented (see van Hezewijk and Stam 2008). From the perspective of the creation and consolidation of academic disciplines, it marks a period of transition in the development of modern psychology, characterized by shifting intellectual boundaries as well as national and international competition following the upheavals of World War II. Given the vacuum created by the radical shift in German universities, first beginning in 1933 and then with the end of the war and the partition of Germany, psychology was a rather ambiguous enterprise in European nations. Unlike the Anglo and North American context, where psychology not only continued without interruption but had, at least by its own account, contributed to the conduct and outcome of the war, European psychologists were fewer and less well established. This was as true in the Netherlands as it was elsewhere. The gradual training of Dutch psychologists in American universities and their incorporation of the standard literatures would, by the 1960s, lead to the beginning of an integration of Dutch psychology with an internationally oriented, American dominated version of experimental psychology. Prior to this time, however, there was a brief period wherein various versions of psychology competed openly, including a phenomenological psychology that was inspired by French and German phenomenological and existential philosophies.

The so-called school of phenomenology in the Netherlands included such prominent figures as the physiologist and psychologist Frederik Buytendijk, pedagogue Martinus Langeveld, psychologist David Van Lennep, jurist Willem Pompe, criminologist G.Th. (Gerard) Kempe, psychiatrists H.C. Rümke and J.H. Van den Berg, and the sociologist J.P. Kruijt. Along with Johannes Linschoten and Benjamin Kouwer (representing the younger generation of psychologists) these scholars set out to do psychology in a deliberately different fashion from the natural scientific or, what they called, the positivist standpoint. They loosely defined themselves in relation to the traditions of philosophical phenomenology in Germany such as those of Edmund Husserl (the famous “founder” of phenomenology as a philosophical approach), Karl Jaspers (the phenomenologically oriented psychiatrist), Max Scheler (the Catholic philosopher who emphasized personalism in phenomenology), and the existentialists in France such as Jean Paul Sartre, Gabriel Marcel, and Simone de Beauvoir.

Frederik Buytendijk

The Dutch tradition of phenomenological psychology originated largely with the work of Frederik Buytendijk (1950, 1953, 1967). Although phenomenologically inspired work could be found in psychiatry, criminology, pedagogy, and philosophy, psychology’s importance in the creation and propagation of phenomenological research took on international importance because of Buytendijk’s status and influence. This was due in large measure to his prewar activities in biology, medicine, and philosophical anthropology. Indeed, Buytendijk had no formal training in psychology at all, which was in some ways an advantage for creating the conditions for a phenomenological psychology. The fact that he outlived his most famous pupil, Johannes Linschoten, further added to his dominance over one stream of Dutch psychology after World War II.

Frederik Buytendijk was born in 1887 as the only child to a professional officer who taught in the Royal Military Academy in Breda. In 1904 he began his studies at the University of Amsterdam, in 1909 he wrote his exam for medical doctor, and then began 4 years of research in physiology. He traveled throughout Europe to visit the foremost laboratories of the day including those of Sherrington in Liverpool, Langley and Hill in Cambridge, Engelmann in Berlin, and Dohrn in

Naples. In 1913 he was named an assistant in the psychiatric-neurological clinic of the Free University in Amsterdam and here Buytendijk also received training in clinical neurology and psychiatry. In 1914 he was given the position of lecturer in General Biology at the Free University at the age of 28. In 1917 he became head of the new physiological laboratory at the Free University, and in 1919 he received the chair in General Physiology at that same university. He published widely on basic physiological processes but from 1918 to 1920 became interested in animal psychology. In 1918 he wrote a thesis on “*experiments on habit formation in animals*” and took an interest in learning, instinct, perception, and attention in animals. He wrote two books on animals, one entitled simply *The Psychology of Animals* and the other *The Wisdom of Ants* that were widely read but also criticized by his scientific colleagues for their obvious theological overtones. In 1925 Buytendijk was appointed in Groningen to the chair of General Physiology. His inaugural lecture marked the beginning of a new interest in philosophical questions in biology and psychology. His general interest in questions of a philosophy of living things led him to animal psychology and away from basic physiology. By the end of the 1930s he had ceased doing experimental work of any sort and was writing widely on animal topics. Four different books on animals and animal psychology appeared during the 1930s, but while he was writing these books he was busy laying the foundations of an entirely different career. He maintained an extensive correspondence with, among others, the philosophers Max Scheler and Helmuth Plessner, biologists such as Johann von Uexküll, and physicians such as Ludwig Binswanger (1941). His contact with a number of key catholic thinkers such as Jacques Maritain, Gabriel Marcel, and Romano Guardini led to his conversion to Catholicism in 1937, an event that was widely reported in the Netherlands and abroad.

During the war he was a strident anti-Nazi and had published articles prior to the war already in newspapers criticizing Nazi anthropology. From July to the end of October in 1942 he was held hostage by the German occupation troops in a special hostage camp whose purpose was to prevent acts of sabotage. It was here that he wrote one of his better-known works, *On Pain*. In 1943 he was once again sought by the Germans

to be held hostage. This time, however, he went into hiding in Utrecht until the end of the war. In his very first lecture after the war, which he gave upon returning to Groningen, he began with a critique of the racial theories of the Nazis and plea for the importance of values in education.

Martinus Langeveld, who was phenomenologically oriented and had been appointed as chair of pedagogy in Utrecht ensured that Buytendijk was appointed to the chair of psychology in 1946. Its previous occupant, Frans Roels, had been removed from the chair for his collaboration with the Germans. Buytendijk's appointment was a surprise given that Buytendijk had no formal training in psychology and was self-taught in matters psychological. Furthermore, he added to this – a year later – an extraordinary chair in psychology at the University of Nijmegen, a part-time position. In Utrecht he set up a laboratory, but this was mainly a device for student instruction. His most well-known student, Johannes Linschoten, would make good use of the lab. Buytendijk himself, however, did not do any research there. The 1950s were marked by a number of varied books and publications, including a book on “woman,” which appears as a response to Simone de Beauvoir's *Le Deuxieme Sexe* that was published in 1949. Working through an existential-phenomenological position he ultimately assigns to women the role of care and men the position of labor. It would be widely critiqued by women scholars in the 1960s but would be reprinted at least 18 times and would be translated into six languages. In addition to his academic publications, Buytendijk managed to stay in touch with a broader public by writing for newspapers, magazines, and other specialty publications.

In 1957, at age 70, Buytendijk retired from Utrecht University and in 1961 from Nijmegen University. However, he maintained an office in his former psychology lab, much to the chagrin of Linschoten, by continuing to teach a course on the foundations of physiology for psychology students, allowing him to come to the lab regularly after Linschoten had already taken over the chair in psychology. After Linschoten's early death at the age of 38, Buytendijk temporarily resumed his work as the chair of psychology, finally retiring for good in 1966. He died in 1974 at the age of 87.

Buytendijk's early exposure to the work of, and his relationship with, the philosophers Max Scheler and

Helmuth Plessner would prove to be important as was his eventual relationship with Merleau-Ponty. Scheler was a German Jew who had converted to Catholicism but would eventually break with the Catholic Church before his death in 1928. He studied with Wilhelm Dilthey, among others, and was deeply influenced by Husserl. After the First World War until his death he was professor of ethics and metaphysics in Cologne. Scheler routinely invited Buytendijk to Cologne between 1920 and 1923 and Buytendijk in turn invited Scheler to the Netherlands for lectures. It was through Scheler that Buytendijk was first introduced to phenomenology as well as various aspects of Catholicism, and Scheler's vision of phenomenology was uniquely influential for Buytendijk. Scheler distanced himself from Husserl's transcendental phenomenology, as would Buytendijk. Instead phenomenology is more of an orientation, a way to view the world, and it is applicable to many disciplines. Phenomenology for Scheler is a practice and a “holding in consciousness” that can approach a pure phenomenology only by describing being as something separate from the factual-empirical givenness of experience.

Helmuth Plessner (1892–1985) was also crucial for Buytendijk's development. Plessner was a privatdocent in Cologne and from 1926 to 1933 he was an “extraordinary professor.” He fled to Groningen in 1933 where Buytendijk gave him a position as his assistant and eventually Plessner was given first a teaching position and eventually a chair in philosophy in 1946. In 1951 he returned to Germany to take a position at Göttingen. Buytendijk coauthored a paper with Plessner in 1935 that consisted of a critical study of Pavlov's work. Plessner's influence on Buytendijk was especially obvious in the latter's work on animal psychology. At the same time the importance of the body, an emphasis that Buytendijk would see confirmed and developed in the writings of Merleau-Ponty, was already clearly developed by Plessner.

Most important, however, for Buytendijk's development as a psychologist and philosophical anthropologist is the work of Maurice Merleau-Ponty (Kwant 1963). Like Scheler and Plessner, Buytendijk had a personal relationship as well as a limited correspondence with the younger scholar, but it was a much more one-sided relationship. The existential-phenomenological vocabulary that Buytendijk would

employ after World War II would come almost entirely from Merleau-Ponty. The subjective body wherein the body is both subject and the subject a body is derived from Merleau-Ponty. Suffice it to say, Merleau-Ponty's emphasis on the body as subject, as being in the world, as a pre-reflexive existence, all find their way into the phenomenology of Buytendijk and, more important, become a feature of the phenomenological psychology that is taught in Utrecht after 1946. This is not to say that Buytendijk becomes a mere adherent to a phenomenology of Merleau-Ponty but rather that the particular expression of phenomenological psychology finds its vocabulary and fundamental orientation in the writings of Merleau-Ponty.

Buytendijk's specific contribution to phenomenology consists in, among other things, a tiered expression of these questions of the body and meaning. He argues that beings have a nature that is available to the specific sciences and is objectively knowable. In addition, beings also have a body that makes an appearance that is expressive and meaningful, not just objective. Finally beings have an existence, which includes for human beings a pre-reflexive as well as conscious existence that is the foundation of our action.

Buytendijk became well known for his notion of the "encounter." Although present in the work of Sartre, Buytendijk explained its origins as essentially arising from the writings of Merleau-Ponty and Gabriel Marcel. Buytendijk argues that there are two forms of encounter, one through which we can understand the way a person can interact with others and with the things or artifacts of this world. This provides us with psychological insight but is to be distinguished from the way in which the encounter also gives us insight into the ontology of being. Every encounter provides us with some exposure to the nature of another's being, their *Dasein*. Hence the psychological and ontological are not separate but tied together; psychological knowledge is possible only on the basis of being.

Johannes Linschoten

Johannes Linschoten (1925–1964) was Buytendijk's most important student and the person appointed to his chair at the University of Utrecht when Buytendijk retired in 1957. Linschoten's reputation in the Netherlands is largely the outcome of the posthumous publication of a book he wrote just prior to his early

death on March 17, 1964, *Idols of the Psychologist* (Linschoten 1964). Having died suddenly at the age of 38, Linschoten developed into a kind of mythical figure who was originally known for his work in phenomenology but whose shift to a hard-nosed, scientific and experimental psychology was compared to a conversion experience. His last book, *Idols of the Psychologist*, was considered an important turning point that signaled the end of the phenomenological movement in the Netherlands.

Although this was overstated, one could argue that Linschoten's possible conversion away from phenomenology does mark a clear end to a particular articulation of phenomenological psychology in the Netherlands. Outside the Netherlands, however, it was his earlier interest in phenomenology that helped ensure an interest in the Dutch school and its spread beyond the Netherlands (see Giorgi 1965, 1966, 1968, 1970a, 1983; Kockelmans 1987; Luijpen 1960; Misiak and Sexton 1973). In 1961 Linschoten had written a book on William James and phenomenology that was translated and published in English in 1968 (Linschoten 1968). Prior to this, that book had also been translated into German in 1961. Because *Idols of the Psychologist* was never published outside the Netherlands, his radical conversion was neither understood nor acknowledged by those outside the Netherlands.

Like his previous books, *Idols of the Psychologist* too had been based on a series of lectures that he gave to undergraduates between 1959 and 1964. This was a time of expansion and curricular change in higher education in the Netherlands. The influx of students into the universities, their attempts to accommodate and manage the influx while growing on older curricular models, the increase in chairs of psychology and the student interest in the new discipline all led to a realization that the old curriculum must give way to forms of training that could be adapted to large numbers of students.

Phenomenological psychology, however, was idiosyncratic, required a great deal of broad, general reading, and could not be counted on to provide a coherent and uniform education in psychology. Furthermore, the new applied subdisciplines of organizational and clinical psychology showed themselves to be more amenable to Anglo and in particular American models. Technical aspects of psychology required education in

statistics and experimental methods and these were readily taught to large numbers of students in large classes. Unlike the idiosyncrasies of phenomenology which did not fit within a standardized curriculum, the new psychology could be adapted to the new realities of the education system.

The originators of the Dutch school came from many different fields. When Linschoten succeeded Buytendijk to the chair in Utrecht in 1957, it meant that phenomenological psychology rested on his shoulders, yet he had no interest in being the standard bearer for a movement. Hence, the beginning of the end of phenomenological psychology in the Netherlands was already on the horizon in 1957, and its demise was quick and sure after 1964.

In the early and mid-1950s Linschoten, like his colleagues and mentors, was quite critical of a positivistic, experimental psychology. The phenomenologists were proud of their attention to “the person” and his or her world while eschewing the objectifying tendencies found elsewhere in the discipline. Their work, however, was eclectic and never cohered into a program or even “school” despite the widespread application of that term to the group of phenomenological oriented scholars in the Netherlands.

As a footnote to this movement, it is important to note that the phenomenological psychology of the Netherlands was widely influential in certain universities and academic circles in the USA in the late 1950s and early 1960s (MacLeod 1951; McGill 1947; Smith 1983; Strasser 1963, 1977; Straus 1965; Van den Berg 1952; Van Kaam 1966). It was clearly an inspiration among others for what became known as the “Third Force” or Humanistic Psychology and a version of phenomenological psychology largely fostered by psychologists such as Amedeo Giorgi at Duquesne University would remain important in American psychology for the remainder of the twentieth century.

See Also

- [Consciousness and Embodiment](#)
- [Husserl, E. G.](#)

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Piaget, Jean

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Basic Biographical Information

Jean Piaget was a Swiss-born, French-speaking social scientist whose theory of cognitive development revolutionized the understanding of children's development. Trained as a natural scientist, with a strong emphasis on philosophy, Piaget employed an approach to development that was fresh and often controversial. Eventually, his research and writing came to dominate the specialty. Although his influence has waned, his work continues to have a substantial impact today.

Piaget was born on August 9, 1896, in Neuchâtel, Switzerland, the son of Arthur Piaget, a university professor, and a mother who is often described as troubled. A precocious child, Piaget published his first scientific paper at the age of 10, and became an authority on mollusks before he was out of his teens. After completing his doctoral degree in natural science at the University of Neuchâtel at the age of 22, he began an informal study of psychology, first studying at the University of Zurich and later working with Théophile Simon, a former associate of Alfred Binet, in Paris. It was through his work with Simon that he had what was perhaps his most formative insight (Piaget 1952; Vidal 1994).

Piaget was assigned the task of standardizing an intelligence test on Parisian children that had been constructed by the English psychologist, Cyril Burt. Piaget found himself fascinated not by the correct answers but rather by the children's thinking and the systematic way in which children made errors. He thought that an understanding of their errors would throw light on the entire thinking process of children. His goal in these years was to understand how knowledge was acquired; he was less interested in child development as such. Nonetheless, his writings on child development brought him to the attention of Edouard Claparède, the director of the Institut J. J. Rousseau in Geneva – the institute later became affiliated with the University of Geneva – who offered him a position as Director of Studies. Piaget continued his affiliation with the University of Geneva for the rest of his life (Elkind 1981).

In 1923, Piaget married one of his students at the Institute, Valentine Châtenay. She was of enormous assistance to him as he developed his theory of cognitive development, much of it based on observations of their three children, Jacqueline, Lucienne, and Laurent. Later, Piaget would be unfairly criticized because of his limited sample. Although he derived many of his ideas from observations of his own children, he and his coworkers and students would later include tens of thousands of children in their research. Piaget was also criticized for his “clinical approach” to research that lacked the highly controlled method of other research approaches. Using this method, Piaget was more open to the spontaneous utterances of children and let their behavior guide the direction of the encounter.

Piaget's ideas were slow to be accepted in the USA, largely because his approach was not compatible with behaviorism, the dominant approach in the USA at the time. In the 1950s, articles began to appear referencing his work, notably by David Elkind. The book on Piaget's theory by John Flavell (1963) is thought to have been particularly important in bringing Piaget's work to the attention of a US audience. Despite his international success, Piaget was modest about his research and writing. He was not interested in gaining disciples, but rather in finding the truth. He once said that to the extent there were Piagetians, to that extent he had failed. Piaget died on September 16, 1980.

Major Accomplishments/Contributions

Piaget is properly called a constructivist. He viewed the behavior of the developing child as parallel to that of a scientist. In his view, children shape their thinking as they interact with the environment, developing hypotheses about the world, and changing them as they gain additional information. He proposed a four-part stage theory that outlined the progression of cognitive development from infancy to cognitive maturity. In doing so, he argued persuasively that children at different stages literally think differently. Through a series of clever tasks presented to children, he was able to demonstrate the quality, form, and limitations of thinking at various levels of development.

At the most basic level, Piaget illustrated how children learn sequencing and object permanence in the earliest part of life. As they mature, they tend to be very perceptually bound, frequently animistic and egocentric in their conceptions, and limited in their capacity for genuine thinking. It is only when they reach a stage he called concrete operations and achieve “reversibility” that they begin to engage in genuine thinking. Until then, their reliance on perception often yields surprising solutions to problems. However, their thinking is still not fully mature. The final stage of cognitive development occurs when children begin to develop qualities of abstract thinking, typically in their early teens.

Piaget’s beliefs about a stage theory of cognitive development touch on many aspects of child development, and have enormous implications for parenting, education, and the law. For instance, rather than interacting with children from an adult perspective, parents and educators are encouraged to determine the level of thinking the child is currently capable of and to address their comments to that level.

During his lifetime, Piaget published approximately 60 books and hundreds of articles. His work dominated developmental psychology until the late 1970s, at which point its influence began to fade. He was criticized on many fronts, which included questions about the timing of the stages and the generalizability of his concepts. Despite its reduced contemporary role, many parts of the theory remain useful today and continue to merit study (Beilin 1992).

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Pillsbury, Walter B.

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Basic Biographical Information

Born: July 21, 1872; Died: June 8, 1960.

Pillsbury was born in Burlington, Iowa, and got his college education at the small Quaker school William Penn College in Oskaloosa and at the University of Nebraska (B.A. 1892) with Harry Kirke Wolfe. He then went to Cornell and gained the Ph.D. in 1896, one of the first generation trained by ► [Titchener, Edward Bradford](#). For 2 years, he continued as an instructor at Cornell and then began a lifelong academic career at the University of Michigan.

Major Accomplishments/Contributions

With Titchener, he translated into English Külpe’s “Introduction to Psychology” in 1897. Pillsbury’s most important theoretical contribution was also his earliest – his book on attention, published in French as “L’Attention” (1906) and then as “Attention” in English in 1908. Pillsbury, experienced in the laboratory study of attentive processes (Galloway and Pillsbury 1904), summarized theory and research in the methods of measuring attention and connected it across the gamut of psychological categories, including the self, emotion, consciousness, and the brain. He asserted an inverse relation between attention and emotional

arousal, noted the convergence of several studies' results on 5 as the number of items could be attended and recognized in a brief presentation, and advanced a holistic and unitary conception of the brain based on the multiple interconnections of its association areas. He did not neglect abnormal psychology, and referred to studies such as those of Kraepelin that suggested that mental disorder was distinguished chiefly by distractability. His general conclusion was that attention was an intermingling of internal and external determinants: He was aware of what now is termed the "binding problem" and spent a good deal of time as well examining the relation between self and attention, which devolved for him on the mind-body question. Several parts of the English version of Pillsbury's text, in fact, appeared first in the *Journal of Philosophy* in 1907. However, it was not a propitious time to be a specialist in an irreducibly cognitive and internal psychological process, and it was only much later that attention came back into prominence as a specific area of study. By that time, during the 1920s and 1930s, Pillsbury had settled down to producing general introductory texts which tended to look backward to the psychology of the turn of the twentieth century rather than toward the newer departures of Gestalt theory and behaviorism. His attempts at a reconciliation between Gestalt and his own views (e.g., Pillsbury 1926) were, compared to other contemporary approaches, less accessible and did not gain wide acceptance. Pillsbury tried his hand at several other aspects of psychology and wrote, at the time of the First World War, a psychology of internationalism. He also was one of three American psychologists who produced a history of psychology in 1929, but while those of the other two, ► [Boring, E. G.](#) and ► [Murphy, Gardner](#), became classics, Pillsbury's was largely forgotten. Pillsbury was politically conservative and emphatic in his support of the First World War: It is however noteworthy that he was one of the psychologists not to join the armed services during that conflict, probably because of his age but also because of his theoretical stance which echoed Titchener's distrust of psychotechnology. Pillsbury continued to work at Michigan up to his retirement and beyond. Late in his career, he made a plea for knowledge as a complement of behavior in psychological study, but by this time cognition was in the wings: The times had caught up

to him (Pillsbury 1950), but it is likely that his effect on this shift in psychological thinking was incremental at best.

See Also

- [Boring, E. G.](#)
- [Murphy, Gardner](#)
- [Titchener, Edward Bradford](#)

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Pintner, Rudolf

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Basic Biographical Information

Born: November 16, 1884; Died: November 7, 1942.

Pintner was born in England and received the M.A. from Edinburgh in 1906. He studied next at Leipzig between 1909 and 1911, receiving the Ph.D. in 1913. He moved to America and, after a short stay at the University of Toledo, taught at The Ohio State University between 1913 and 1921, and went from there to Columbia University where he remained for the rest of his career. Like Cattell and Münsterberg, Pintner easily transitioned between German academic psychology and applied psychology in the United States.

Major Accomplishments/Contributions

He began his career as a translator of German psychological works, including Wundt's *Introduction to*

Psychology (the 1912 distillation of the *Outline*), Kerschensteiner's *The Idea of the Industrial School*, Schulze's *Experimental Psychology and Pedagogy*, and, with the philosopher Emil Wilm, Otto Klemm's *History of Psychology*. He also conducted work on attention and silent versus oral reading before settling into two fields to which he contributed steadily for the next 30 years: mental testing and the education of disabled individuals, especially the deaf. In 1914, he began a collaboration with his student ► [Paterson, Donald G.](#) later to become eminent himself as a pioneer in applied vocational psychology. Within 4 years, this partnership resulted in several papers on testing practice and standardization in both normal and deaf environments as well as their nonverbal test battery *A Scale of Performance Tests* (Pintner and Paterson 1917), which established them both in their careers. Working in the context of the refinement and standardization of the Binet and other intelligence scales, they drew on existing work by, among others, H. H. Goddard, F. Kuhlmann, H. A. Knox, and William Healy to assemble a set of 15 tests, mostly variations on existing tests including the Seguin formboard, the Healy Picture Completion Test, Knox and Kempf's Feature Profile Test, Woodworth and Wells's Substitution Test, and Glueck's Ship Test. Pintner and Paterson also added some original tests of their own. This compendium filled a void in testing in situations where impaired language or other disability made testing difficult, and because of its consistent and meticulous standardization and its lucid presentation, it became a standard reference for many years and was used in many experimental studies. It also served as a springboard for the future development of the performance component of intelligence tests such as Wechsler's.

After this and after his move to Columbia, Pintner continued his dual interests in intelligence testing and in developing tests for disabled individuals, often in collaboration with students. For example, in 1923, with Bess V. Cunningham, he published the *Pintner–Cunningham Primary Mental Test* (Pintner and Cunningham 1923), a picture intelligence test which, like the Pintner–Paterson scale, had a long run as an educational measuring instrument. Cunningham later went on to become a Professor of Education at the University of Toledo and wrote a psychology textbook

for student nurses (Cunningham 1946) which was influential in the growth of a psychologically oriented nursing curriculum. Also in 1923, Pintner authored *Intelligence Testing: Methods and Results* (Pintner 1923) which was one of the authoritative sources in the field during the height of the intelligence testing controversies in the 1920s, from which Pintner kept apart. Pintner, now a member of Teachers' College, came more and more to identify with educational psychology and wrote an introductory text in that field (Pintner 1929). In 1932, he published the *Pintner Intelligence Tests* for the middle grades (Pintner 1932), but by this time he was just one of many voices in the burgeoning testing field. He compiled regular yearly surveys of advances in intelligence testing during the 1920s and 1930s which were precursors of the large compendia of test reviews such as the *Buros Mental Measurements Yearbook* that appeared at the end of the 1930s. He contributed less to theory than to practice in testing, and had his most important effect in promoting accurate and comprehensive standardization. He was honored during his lifetime for his work with deaf individuals by Gallaudet College and, after his death, the college published a memorial volume with a complete annotated bibliography (Arsenian 1951).

See Also

- [Paterson, Donald G.](#)
- [Wells, Frederic Lyman](#)

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Poffenberger, A. T.

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Basic Biographical Information/Major Accomplishments

Born: October 23, 1885; Died: December 24, 1977.

Albert Poffenberger, heir to a family tradition of becoming physicians, became intrigued by physiological psychology during his undergraduate studies at Bucknell, and after graduating in 1909 went to Columbia for graduate study in psychology. His career arc spanned the old laboratory psychology based on sensation and reaction and the new applied psychology, and he made significant and lasting contributions to each. His 1912 doctoral work was a study of the difference in reaction times between visual stimuli presented at various eccentricities (Poffenberger 1912). He estimated the difference between responding to uncrossed (same visual field as responding hand) and crossed (opposite visual field to responding hand) to be between 5 and 6 ms, a result which corresponds well with modern estimates and which he interpreted as the time for information to cross the corpus callosum. Current studies of intrahemispheric transmission time in various neurocognitive paradigms frequently reference this finding as the “Poffenberger Effect” (Saron et al. 2002). He was also involved in studies typical for the time on the effect of drugs on performance, publishing on the effects of strychnine on mental and motor efficiency in 1914. In 1917, he coauthored, with Harry Hollingworth, a comprehensive study of the sense of taste which considered, among other things, the evolution and aesthetics of taste (Hollingworth and Poffenberger 1917b). In the same year, and also with Hollingworth, who along with others at Columbia had already made significant contributions to various areas of applied psychology, he coauthored *Applied Psychology* (Hollingworth and Poffenberger 1917a) which described applied psychology as a field with good prospects for a “dignified and prosperous existence.” Written in the same lucid and accessible nonspecialist style that marked other contemporary Columbia products in applied psychology,

it covered principles and findings in the psychologies of management, business, law, social work, medicine, and education. This was followed, in the 1920s, by books by Poffenberger as sole author on advertising and on general applied psychology: His 1927 *Applied Psychology: Its Principles and Methods* was in its day a recognized standard text (Poffenberger 1927). Poffenberger saw applied psychology’s role as an agent in increasing the efficiency and economy of human effort. While as president of the American Association of Applied Psychology in 1943–1944 he played a central role in convincing the organization to become incorporated in the newly expanded and federated APA, he urged caution and recommended that programs in applied and professional psychology “above all promote in every way the pure science of psychology, for without that as an ever widening foundation our profession will wither and die” (Poffenberger 1945). Poffenberger was also a close associate of R. S. Woodworth and contributed to the development of both Woodworth’s 1921 generalist textbook and his 1938 *Experimental Psychology*. Additionally, Poffenberger worked on the problem of categorizing psychology, proposing in 1917 a revision of the Dewey Decimal System to accommodate the range of books produced by developing psychological subspecialties (Poffenberger 1917). He was also influential through his work in several organizations including the American Psychological Association, whose President he was in 1934, and through his students, who ranged from the Pavlovian Gregory Razran to the philosopher Mortimer Adler. In his insistence that beneath academic and applied psychology there is only one psychology, a scientifically grounded and experimentally validated one, he shaped psychology’s modern hybrid scientific-professional character.

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Pogson, N. R.

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Basic Biographical Information

Norman Robert Pogson was born on March 23, 1829, at Nottingham, England, and was raised to work in the family business in hosiery manufacture. Pogson received an ordinary education appropriate to his expected occupation. Yet along the way he showed an interest in science. His family helped him obtain employment with an optical instrument maker in the family's hometown, and after that, Pogson obtained instruction in trigonometry and other branches of mathematics. In time Pogson was introduced to a family friend, John Russell Hind, who was a respected London astronomer. Hind invited Pogson to study astronomy under his instruction, and the broader community of astronomers first heard about Pogson in 1847, when at age 18, he published highly accurate calculations of two comet orbits. For the next 44 years, Pogson would be an important British astronomer. Pogson's primary positions were at South Villa Observatory at Regent's Park (London), Radcliffe Observatory (Oxford), Hartwell Observatory (London), and (from 1861 to 1891) Madras Observatory (Madras, India). For most of these years, Pogson was a government employee of Great Britain. Pogson died in Madras on June 23, 1891, at age 63.

Major Accomplishments/Contributions

Pogson is recognized in the history of science for his highly accurate and precise recording of variable

stars, eclipses, longitude measures, and even pendulum arcs on earth (for the purpose of remeasuring the earth's gravitational constant). But although Pogson performed many lines of important research, he is especially known for some detailed analysis he provided in one minor article, which is his description of a scale of the human visual ability to distinguish differing levels of brightness (Chapman 1998).

In November 1856 – while based at Oxford's Radcliffe Observatory – Pogson published a paper focusing on a research problem that required commitment to a “stellar magnitude scale” prior to performing any data collection and calculations (Pogson 1856). The problem was to chart expected positions of “minor planets” (i.e., asteroids) over an upcoming year. Because this work required a powerful telescope, Pogson preferred to use a magnitude scale with some kind of constant ratio between consecutive magnitude classes. Any table he might publish to predict monthly positions for asteroids needed to include an expected brightness value for the first day of each month, and Pogson decided to calculate such values “on the assumed ratio of light of 2.512, i.e., that a star of any magnitude, as for instance the eighth, contains 2.512 times the light of the next less, or ninth magnitude.” Each decrease in magnitude would thus represent a decrease in brightness equal to the fifth root of 100.

Pogson – who published his visual perception scale 4 years prior to Gustav Fechner's famous book of 1860 – recognized that other scientists might question where his scale came from (Pliskoff 1977). He therefore cited leading authorities who had already raised the issue. In particular, he noted his original plan to use one available option, which was German-Russian astronomer Friedrich Struve's constant ratio of 2.00, as suggested in 1827. Pogson explained how he changed his mind when a friend empirically approximated a ratio of 2.43 over the full range of stars, a value different enough from Struve's ratio to “throw uncertainty” upon the whole matter. Pogson then performed his own measurements, with data collection that rendered his conclusion that any constant light ratio seemed close to 2.5. Finally he made a sweeping review of others' results, which resulted in

a calculated mean of 2.40 for all magnitude ratios obtained by reliable methods. Pogson concluded that an idea of a constant ratio for the marginal change in distinguishable brightness was firmly in place. He noted the “high authority” of Prussian astronomer F.W.A. Argeländer who had recently endorsed a constant ratio of 2.519 for the specific purpose of measuring brightness levels of asteroids. While ultimately unconcerned about “which of these ratios is adopted in dealing with the ranges of ordinary telescopes,” Pogson wanted a ratio suited to powerful telescopic studies. He selected his own ratio, 2.512, for logical reasons: Argeländer had endorsed a value close to it; logarithm ratios are mathematical constants “continually occurring in photometric formulae”; the particular value of 2.512 worked “for convenience of calculation”; and Pogson’s ratio allowed that Edmund Halley’s (of the comet fame) long-established brightness range of 1–100 from the very dimmest to the very brightest of naked-eye stars be divided into six equal increments. Also a virtue was that calculations done with “Pogson’s rule” are fairly easy procedures (Jones 1968).

Although it took about 20 years after 1856, when astronomers finally adopted a standardized scale, the scale was Pogson’s ratio (Hearnshaw 1996). During those intervening years, Pogson’s empirical magnitude scale was recognized by a number of astronomers and psychophysicists, most notably Gustav Fechner.

See Also

- Boring, E. G.
- Herschel, J. F. W.
- Perception
- von Helmholtz, Hermann
- Wundt, Wilhelm

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Politzer, Georges

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Basic Biographical Information/Major Accomplishments

Politzer was one of the first professional psychologists who dealt seriously with Marx’s ideas in psychology. He was born in Hungary in 1903, and was executed by the Nazis in 1942 for his communist political activities. He was an active member of the French Communist Party. Politzer founded with Paul Nizan, Henri Lefebvre, Georges Friedman, Norbert Guterman, and Pierre Morhange a series of left reviews such as: *Philosophies* (1923), *L’Esprit* (1926), *Revue Marxiste* (1929), and *La Pensée* (1939). In 1929 he founded *Revue de Psychologie Concrète* to provide a forum for dialectical materialist psychology and an outlet for concrete psychological research from around the world. In the 1930s he was the co-founder of the International Workers’ University in Paris. He published over 100 articles, monographs, and books. Politzer’s psychological and philosophical ideas were grounded within the dialectical materialist standpoint. He published a master piece on *Critique of the Foundations of Psychology* (1929, translated into English in 1994). He published a series of papers in the French left journals. Politzer wanted to see a “concrete psychology” with all of its fields and approaches. His own efforts were mainly in and for the creation of a dialectical materialist psychology based on the philosophical and epistemological principles of Marxism. Psychology, according to Politzer, is in need of a fresh start with altogether new categories, concepts, and methods. No real progress is possible as long as a psychological explanation is not integrated into the

methodological explanation offered by economics and other social and the real concrete human life. He stated that, "Psychology by no means holds the 'secret' of human affairs, simply because this 'secret' is not of a psychological order" (1929, p. 170). He conceptualized the theoretical foundations of concrete or positive psychology. He outlined three conditions that lead to establish a concrete or positive psychology:

1. Psychology must be a posteriori science, that is, the adequate study of a group of facts.
2. It must be original, that is, it must study facts which cannot be reduced to the objects of other sciences.
3. It must be objective; it defines psychological facts and methods in a manner that is universally accessible and verifiable (1967, p. 242).

In this sense, concrete psychology is the study of the singular individual, conceptualized as a conscious actor within social reality. It is also the study of the drama of human actual life, drama in the sense of doing and acting. Within the concept of drama, Politzer sought to capture both the biological existence and social interaction, and excluded abstractions by focusing on the events of human existence, both in singular individual and collective social activities.

Politzer was very critical of his present day psychology; he pointed out that, "We need to understand that psychologists are scientists like evangelized wild tribes are Christians" (1928, p. 5). He equated his concrete psychology with materialist psychology. Materialist psychology explains realities with realities.

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Post-Soviet Psychology

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Introduction

In the Soviet period, Russian psychological thought has been full of delights and disappointments. Though keeping a citizen in jail for philosophical and psychological worldview was a normal case in Soviet reality, traditions of psychological thought in the Soviet Union occurred to be pluralistically rich: Physiological Behaviorism of *Ivan P. Pavlov* (1849–1936), Cultural-historical Theory of *Lev S. Vygotsky* (1896–1934), Psychoanalytical Neuropsychology of *Alexander R. Luria* (1902–1977), Existential Psychology based on *Mikhail M. Bakhtin's* (1895–1975) philological traditions, *Alexsei N. Leontiev's* (1903–1979) Activity Theory based on the principles of the Communist Party of the Soviet Union.

It was the Christmas Day of 1991, that the USSR, born in the Bolshevik Revolution of 1917, split into 15 independent republics. Russian Federation was the most influential and important one among the successors of the Soviet Union as well as the one that inherited the right to own the Soviet socio-culture.

Soviet ideological legacy was traumatic for the culture of New Russia. Since then, three psychological factors have been shaping Russian character. Russians started to think that:

1. One person, Josef Stalin by name, was to blame for the incredible number of losses in Russian population. The tragic phenomenon has the name Stalin purges. Such feelings lead to anger and anxiety for the past.
2. The international community has the crucial, even fatal responsibility for the poor state of the Russian economy, diplomacy, and mentality. This leads to the feeling of handed helplessness.
3. The nature of Russian mind has always been so unique that no one in this world was and is able to understand it. Such approach leads to the feeling of inferiority, existential fear for the future, and rigidity in Russian Character.

Soviet Versus Post-Soviet Psychology

The collapse of the Soviet Union was a progressive event for the development of Russian psychological and sociological thought, for the development of the humanities and social science in Russia and in the newly born Republics bordering Russian Federation. Russian Psychologists are trying to reevaluate their traumatic legacy and understand the hidden and latent directions likely to result from the new academic and political environments. Translations of Western authors are viewed something decisive for today's Russian Psychology.

Though the Soviets were claiming that they have solved all the earthly and heavenly problems referring to the social, political, religious, and national life of their country, it occurred to be that a bunch of deadly problems – that tend to grow into turmoil – are hanging over the head of the newly born post-Soviet Republics. All these problems are thought to be *Psychological*, never *Political*, and post-Soviet Psychologists are expected to solve them with their magic wand:

1. Ethnic hatred, tensions, and struggle that has been a historical tradition for all Russias – Czarist, Communist, and post-Communist.
2. Alcoholism, which also has a long history in Russia, plus drug addiction. Consuming a lot of alcohol is a typical part of Russian culture, and also a major problem. Since 1990, alcohol yearly consumption among males has doubled.
3. Ugly interactions in Russian families as well as high rate of divorce. A deeper tragedy is that many divorced couples in Russia and bordering Republics continue to live together because there is no other place to live – it is too expensive.
4. Unemployment and poverty – about one-third of Russian population live below the poverty line.
5. Gangs and school dropouts. Because of poverty and little chance of finding jobs, many youngsters in Russia choose gang life over education.

The field of psychology that exists for the uses of the state, for dealing with citizens, for organizational, industrial, and labor purposes has become of utmost importance. Because of the fact that *Pavlovian*, *Marxist*, and *Communist Theories* could never solve a single social, political, and/or psychological problem in the Soviet Union, *post-Pavlovian*, *post-Marxist*, and

post-Communist theories are being developed today. They are coming into existence like mushrooms appear after rain. They tend to be exercised over the whole Russian society as well as over the societies of the bordering countries, i.e., the post-Soviet countries.

Ivan P. Pavlov's Physiological Behaviorism

Ivan P. Pavlov's physiological experiments started long before the Bolshevik Revolution of 1917. Pavlov performed and directed experiments on digestion that earned him the 1904 Nobel Prize in Physiology and Medicine. The Russian Bolshevik Revolution was more than a regime change; every area of social and intellectual life in Russia was subject to protracted, traumatic, and repeated transformation. It also transformed Pavlov's life. The new Bolshevik Government started generously supporting Pavlovian Experimental Laboratory in St. Petersburg as something important for military purposes. Pavlov's physiological theory has had two distinct sides. One of them reveals the Physiological and biomedical truth that had to coincide with Marxist Dialectical Materialism while the other ought to explain the historical truth of Marxist Teaching – “the only true one in human history” – the name of which was Historical Materialism. In fact, Pavlovian Psychophysiology has been the Russian interpretation of Wundtian Physiological Psychology, with the concept of “reflex” instead of “consciousness” plus schizophrenic citations from the classics of Marxism–Leninism. All of them had to prove the Soviet teaching of *nervism* (one should read, functions of neurons). *Psychophysiology* and *higher nervous activity* for most Russian Psychologists were and are synonymous that has been challenging to the Western understanding. Pavlovian ontology and methodology gained an official and commanding position to Soviet biomedical and psychosocial sciences in 1950 with the Resolution of the June 28–July 4 Joint Pavlovian Session of the Soviet Academy of Sciences and Academy of Medical Sciences. A large portion of Soviet psychological thought has been primarily a textual and exegetic collation and conciliation of the views of Pavlov with those of classics of Marxism–Leninism. There has been the longstanding drastic ban on intelligence testing, psychoanalysis, Gestalt psychology.

Pavlov has contributed to a few areas of physiology and neurology. These experiments included surgically extracting portions of the digestive system from animals, severing nerve bundles to determine the effects, and implanting fistulas between digestive organs and an external pouch to examine the organ's contents. This research served as a base for broad research on the digestive system.

As related to Psychology, Pavlov's work involved research in temperament, conditioning, and involuntary reflex actions. Pavlov's work on reflex actions involved involuntary reactions to stress and pain. Pavlov extended the definitions of the four temperament types under study at the time: *phlegmatic*, *choleric*, *sanguine*, and *melancholic*, updating the names to "the strong and impetuous type, the strong equilibrated and quiet type, the strong equilibrated and lively type, and the weak type."

Pavlov and his colleagues *Piotr K. Anokhin* (1898–1974) (Anokhin has elaborated a theory of *Functional Systems*) and *Levon A. Orbeli* (1882–1958) (Orbeli has played an important role in the development of *Evolutionary Physiology*) began the study of trans-marginal inhibition (TMI), the body's natural response of shutting down when exposed to overwhelming stress or pain by electric shock. This research showed how all temperament types responded to the stimuli the same way, but different temperaments move through the responses at different times. Ivan Pavlov commented, "...that the most basic inherited difference was how soon they reached this shutdown point and that the quick-to-shut-down had a fundamentally different type of nervous system."

Lev S. Vygotsky's Sociocultural Theory

Since the 1950s, Lev S. Vygotsky has been widely considered a key figure in twentieth-century Russian psychology, an influential thinker and a prolific writer, who with his cultural-historical theory explored socio-cognitive development. Lev Vygotsky started his career with using the language of Ivan P. Pavlov's and *Vladimir M. Bekhterev's* (1857–1927) *Reflexology* (in Reflexology, everything was a reflex), but called for *consciousness* to be given its place as the key concept of psychology (Vygotsky 1997a, b). In fact, it was *Wilhelm M. Wundt's* (1832–1920) psychophysiological

principle. Vygotsky expressed the idea that consciousness was not a reflex but the *organization of reflexes*, a process with a social origin. He continued with another concept – *Unit of analysis*. As *Karl Marx* (1818–1883) points out in the preface to the first edition of "*Capital*," the commodity relation is "*cell*" of economics. All the phenomena of capitalism can be unfolded from this simplest and most primitive of relations, just like the cell in biology and the molecule in chemistry. The idea of *Unit of analysis* originated with German poet and naturalist *Johann Wolfgang von Goethe*, and was a key methodological principle for *Georg Wilhelm Friedrich Hegel* (1770–1831), the German philosopher and *Karl Marx*, the founder of Marxism. Deriving from the Unit of analysis, Lev Vygotsky differentiated between *elementary and higher mental functions*. The three critical aspects of Vygotsky's approach are the role of *mediational* means in higher psychological functioning, the contributions of social and cultural experience in providing and supporting the development and use of these mediational means, and the privacy of the development. Developmental thought and ontological thought are tied up with material objects (tools, symbols, or other people) and the practical activities through which people use them and give meaning to them.

Lev Vygotsky has introduced *sociocultural theory* which emphasizes the contributions of the social and cultural world to cognitive development. According to the main idea of this basic psychological theory, the development of all higher cognitive processes and functions is by nature social and all social development has a cognitive basis. Social and cognitive processes are intertwined due to the processes and mechanisms of internalization and externalization. The social basis of higher cognitive processes, in turn, is intertwined with the economic conditions prevailing in a given society. Using Marxism as a starting point Vygotsky developed a threefold vision focusing respectively on *phylogenetic*, *sociohistorical*, and *ontogenetic development* (Vygotsky and Luria 1930/1993). The three processes of development could be brought together by a common Marxist vision based on the concepts of general and societal evolution, *dialectical materialism*, *determinism*, and the central importance of labor and of physical and psychological tools. Within this Marxist vision, Vygotsky's special focus was on children's development and

education within their historically and culturally constituted environments. Vygotsky would criticize Swiss Psychologist *Jean W.F. Piaget's* (1896–1980) interpretation of infants' egocentric speech. Piaget thought that the child "talking to him-/herself" was a kind of autism which eventually died away. But as Vygotsky saw it: First the child used speech to gain the help of adults, and then to control his/her own actions, and then vocalization gradually faded away as the vital function of controlling their own behavior through speech turned inward. According to Lev Vygotsky, the human organism is born with a number of functional capacities each depending on various biological structures. When developing, the basic functions – that are identical with animals – are subsumed into higher psychological functions. Mental or psychological functions develop through the social use of cultural products. The result is that new, specifically human, psychological functions successively differentiate themselves, each of which mobilize the entire range of biological formations in a new Gestalt. This allows human beings to voluntarily use different functions, such as memory, speech, visual perception, and so on, which is unavailable to animals. Such approach explains the contradictory results of investigations in brain localization of psychological functions: Every human psychological function utilizes a multiplicity of regions of the brain, as well as the whole body.

Alexander R. Luria's Psychoanalytical Neurology

Together with Lev Vygotsky and Alexander N. Leontiev, *Alexander R. Luria* put forward a theory of the socio-historical genesis of higher, specifically human, mental functions. In today's Russian perception, Alexander Luria could have been counted as the founder of modern neuropsychology, if not the Soviet regime. Luria was being forced to conform his public comments on psychology to materialistic and reflexological principles in which, e.g., speech was the speech reflex as if language use could be merely understood in terms of stimulus and response.

Alexander Luria was and is one of the most outstanding Soviet psychologists. He played a great role in the development of Soviet psychology and in the formulation of psychological problems on the basis of *Dialectical Materialism*. Luria carried out numerous

investigations into the ontogenetic and historical development of these functions, as well as their disturbance with local brain lesions. As the founder, in the Soviet Union, of the new discipline of neuropsychology, he made a very significant contribution to the study of the cerebral mechanisms of mental activity. In his comments on Psychology, Luria developed the idea that idiographic method (similar to Gordon Allport's understanding) can be more effective in neurological medicine than nomothetic method. This meant that following a single individual or a group through their life and studying the entire personality and its development can be more effective and scientifically more comprehensive than generalizing observations to formulate general principles, as is done in nomothetic science. Luria's study of an eidetic individual, S, reported in "The Mind of a Mnemonist," (English translation 1987) demonstrated that the cognitive functions were comprehensible only as part of an integrated Gestalt. The Communist trends in Soviet Psychology are precisely articulated in Alexander Luria's following description, "My entire generation was infused with the energy of revolutionary change – the liberating energy people feel when they are part of a society that is able to make tremendous progress in a very short period of time."

The Theory of Activity of Aleksei N. Leontiev

Alexsei Leontiev is the founder of Activity Theory – an extension of Vygotsky's tradition in search of an organizer of all mental processes. The concept of *activity* has played as important and ambiguous a role in Soviet psychology as did the concept of *behavior* in American studies in the first half of the twentieth century. The concept of activity is deeply ingrained in Soviet general psychological theory as something deeply communistic. It was first suggested by Lev Vygotsky as a theoretical remedy for psychological systems. Alexei Leontiev departed from Vygotsky's original concept. The demarcation line separating Vygotsky's understanding from that of Leontiev's occurred in the evaluation of the relative importance of *semiotic mediation* and practical actions for the development of intelligence. Leontiev defined Activity in terms of a three-level conceptual structure. *Activity* is a collective system of *actions*, driven by a socially determined

object and motive. Activity is realized through individual actions which are oriented to goals. The individual's goals are not the same as the social motives of the *activity*, and the formation of a goal is necessarily a complex function of the social system, if individuals are to be mobilized in the reproduction of the society. Actions in turn are realized by means of routine *operations*, which depend on the conditions of the action. As a rule, individuals are not conscious of their operations, unless something goes awry. The task of Activity Theory was to connect up the subject matter of psychology with the subject matter of sociology to lay the basis for an integrated human science.

Mikhail M. Bakhtin's Humanistic and Existential Traditions

Existential and humanistic methods of research in the humanities and social sciences successfully take the roots in the social environment of Russia, joining with traditions of psychological and philosophic ideas. Humanistic tradition in Russian psychology is understood as a tradition that derives its theoretical models from the Humanities, i.e., philology and literary scholarship. Humanistic approach in Russian psychological thought is based on the philosophy of language, literary theory, and psychological ethics of *Mikhail M. Bakhtin*, a Russian philosopher and scholar. Mikhail Bakhtin views *life as authoring* and *language as tool for cognition*. The application of these ideas refers to mental cognition, psychological situations of coping and adaptation, defensive behavior and defense mechanisms, undergoing life crises and living a life of struggle.

Mikhail Bakhtin shared with Marxist theorists an interest in the historical and social world, an interest in how human beings act and think, i.e., an interest in the formation of the subject, and an interest in language as the means in which ideologies get articulated. Unlike the Swiss linguist *Ferdinand de Saussure* (1857–1913), Bakhtin views language, as something material and ideological. Although Bakhtin was active in the debates on aesthetics and literature that took place in Soviet Russia in the 1920s, his distinctive position did not become well known until he was rediscovered by Russian scholars in the 1960s. Bakhtin was an ethical theorist. He was very much aware of Marxist theories and doctrines, and how they were being implemented.

Though Bakhtin had to be a Marxist, he was not a Marxist. He was exiled because of his political conflicts with the Soviet Union and because he got in trouble with the Soviet regime. In exile, Bakhtin did a lot of his best works which were not published until the 1970s. Bakhtin is known for a series of concepts that have been used and adapted in Russian psychological thought: *Dialogism*, *carnavalesque*, *chronotope*, *heteroglossia*. Together these concepts outline a distinctive philosophy of language and culture that has at its center the claims that all discourse is in essence a dialogical exchange and that this endows all language with a particular ethical–political force. Bakhtin has theorized that language – any form of oral speech or writing – is always a *Dialogue*. This notion of dialogue is not the same as the Marxist notion of *Dialectic*, though it is similar in focusing on the idea of the social nature of dialogue, and the idea of *struggle* inherent in it. Dialogue consists of three elements: a speaker, a listener/respondent, and a relation between two or more persons. Language, ideas, characters, and forms of truth are always the product of the interactions between two or more persons. Bakhtin contrasts that notion of dialogue to the idea of *Monologue*, or the *monologic*, which are utterances by a single person or entity. Bakhtin's writings, on a variety of subjects, inspired scholars working in a number of different traditions and in disciplines as diverse as literary criticism, history, philosophy, anthropology, and psychology. The work of the *Bakhtin circle* is multifaceted and extremely pertinent to contemporary philosophical concerns. Yet their work moves beyond philosophy narrowly defined to encompass anthropology, psychology, and historiography. The vicissitudes of intellectual life in the Soviet Union have complicated assessment of the work of the circle. The writings of the group have been read into a theoretical position framed by present-day concerns over *post-structuralism* in philosophy and psychology.

New Trends in Russian Psychology of Post-Soviet Period

Creating a *Marxist cultural psychology* in the post-Stalin (after the mid-1950s) period, USSR faced an almost insurmountable difficulty. The Soviet Union was supposed to be free of any negative phenomenon. Even those who were wise enough to know that the

Communist ideology was nonsense had no opportunity to theorize the pathology of the Soviet life, being quite unable to talk or write about such things with other people. Science cannot be built without dialogue and discussion. This meant that there was a firm line beyond which Soviet psychology and social sciences could not go without descending into hypocrisy.

Boris G. Ananiev (1907–1972) was the only Soviet Psychologist who was able to use the Communist cheap and false propaganda in a scientific way. Ananiev's scientific work has been devoted to the interdisciplinary study of personality in the area of Developmental and Educational Psychology. Boris Ananiev has introduced the notion of *personality sensory perceptible organization*. He has revealed the functional peculiarities of hemispheres and their role in mental activity.

In contemporary Russian understanding, Pavlovian Theories are no more Psychology, but are Physiology, and future research should be conducted in physiological direction. Pavlovian and the like theories belong to history, just like Marxist Teaching and Theories do. The milestones for new trends are provided by Mikhail Bakhtin's concept of *life as authoring*, by the analysis of the psychological relevance of literary form. It is argued that with the "life as authoring" approach, Soviet psychology is expected to gain a new perspective, transcending Marxist social science and Pavlovian reflexological limitations.

A new generation appeared in the 1960s, whose work and ideas became an ideological source for the psychologists of the twenty-first century. *Alexander Meshcheryakov's* (1923–1974) work created a basis for a renewal of Vygotsky's legacy. Alexander Meshcheryakov, a student of Luria, took over the work of *Ivan Sokolyansky* (1889–1960), a pioneer in the education of deaf and blind children. Meshcheryakov developed methods of education of deaf and blind children and opened a school for the deaf-blind in Zagorsk in 1962. He did groundbreaking work, superior to anything to be found in the West in this field. The education of children born without sight or hearing involved the practical construction of human consciousness where it did not previously exist. In Alexander Meshcheryakov's system, *phenomenological humanistic position* consists of the special instructions about courtesy and caring attention to the patient. The paradigmatic lesson for deaf and blind

children is learning to eat from a spoon, at first with a teacher operating the spoon, and little by little the children take the initiative. Behind the spoon is the entire history of society, the *human* way of eating. Learning how to use a spoon is the first step in becoming human and through human consciousness one becomes part of a community and society. Many of Meshcheryakov's students completed higher degrees in mainstream universities and most went on to productive careers in the general community.

Crucial to making Russian Psychological thought advanced was a group of philosophers who recognized the significance of Meshcheryakov's work. First among them was *Evald V. Ilyenkov* (1924–1979) taking up Vygotsky's ideas at a new level, based on a comprehensive critique of European philosophy including the writings of *Karl Marx*. In his work "The Abstract and Concrete in Marx's Capital," Evald Ilyenkov revives the Russian Marxist philosophy after the dark days of Stalinism. Ilyenkov's main contribution is his study of the *ideal*, of how *ideals* come into being as perfectly material cultural products, the archetype of which is money. Ilyenkov gained a formidable reputation as an interpreter of *Georg Wilhelm Friedrich Hegel* (1770–1831), the German philosopher and one of the creators of German Idealism. Ilyenkov's analysis was beyond the framework of Marxism.

Another great philosophical psychologist of the Soviet generation was *Feliks Mikhailov* (1930–2006) who tackled the seemingly insurmountable philosophical problems that arise as soon as the orthodox Marxist begins to look beyond the simple slogans of philosophical materialism.

The religious-philosophical heritage with its huge experience of comprehension of spiritual problems positively developed Russian culture and psychological thought. Russian religious existentialism is represented by *Nikolai A. Berdyayev* (1874–1948) and *Lev I. Shestov* (1866–1938). Nikolai Berdyayev was a religious thinker, philosopher, Marxist, and a leading representative of Christian existentialism. He became a critic of Russian implementation of Karl Marx's views. Berdyayev's school of philosophy stressed the examination of the human condition within a Christian framework. Lev Shestov was a Russian-writing Ukrainian existentialist philosopher. Shestov's existentialism appears earlier than European. Shestov's powerful

school of historic–philosophical analysis of existentialism kept functioning even in the Soviet period.

The soil for the Russian existential and humanistic psychology was prepared by a number of outstanding scholars. The greatest and the most typical among them was *Sergei L. Rubinshtein* (1889–1960). In his unfinished work “The Human-being and the World” (“Chelovek i mir”) Sergei Rubinstein has raised the problems of *human beings*, their internal world, the relationship of ethics and ontology, *the sense of life* (with reference to the meaning of life and the perception of life as one entity and one Gestalt).

In June of 1941, Sergei Rubinstein displayed great civic courage by voluntarily staying in besieged Leningrad as a Vice-rector of the Educational Institution in to organize work in the Pedagogical Institute in severe conditions of hostile blockade. Despite that, in 1950, Sergei Rubinstein was blamed for underestimating Ivan Pavlov’s Physiological Teaching as a natural scientific basis for Psychology. Sergei Rubinstein was rehabilitated among many others (*Piotr Anokhon*, *Nicholai A. Bernstein* (1896–1966), *Pavel P. Blonskiy* (1884–1941), *Lev Vygotsky*, *Dmitry N. Uznadze* (1886–1950), *Levon Orbeli*, *Gurgen Edilian*) living or deceased expellees of science after *Stalin’s death* (March 5, 1953) who at different times were under the press of *ideological terrorism*.

Epilogue

The move into the twenty-first century coincided for Russian psychology as well as for Russian society at large with truly revolutionary reforms in the mind of the Russian people leading to greater openness in the academic sphere. Russian psychology was able to connect in a more free and fundamental way with its own heritage and with various developments around the world. These factors affected continuity and innovation with regard to the three dominant theoretical perspectives in Russian psychology: *Vygotsky’s* Developmental Theories with Cultural methodology, *Bakhtin’s* Philosophical Theories with Psychological approach, and *Luria’s* Neurophysiological Theories with Psycho-physiological approach in materialistic tradition. Meanwhile, there have been new paradigms which got the names *Organic Psychology* and *Non-classical Psychology*.

Psychology in Russia is viewed as a “magic wand” to solve all the problems and turmoil of the past Communist period. A critical analysis of the impact of different communist regimes on the research and teaching of psychology in the Soviet Union should be understood properly. The dream of influencing others is not just the ideology of Russian Psychological thought, but the political principle of Russian culture, in general. Psychology is viewed as a magic tool to influence others. The history of Psychology in the USSR gives the key to the perspective of Russian mentality.

Those who were true Marxist-Leninists (read false scholars) had a safe, even luxurious life. But those scientists and scholars who were in search of the truth would be exiled to new territories to find out the truth (read to perish) there. In such situations, Russian character was growing into Russian personality.

At the dawn of the Soviet Psychology, three trends appeared as a result of Lev Vygotsky’s Group’s Scholars scientific activities toward a Soviet Cultural Psychology. Among them, only Vygotsky had the prior understanding of Marxism (Cole 1996; Cole and Scribner 1974). Vygotsky’s Marxism was much more sophisticated than that of the people around him. Vygotsky was developing an unequalled insight into Marx’s critical methodology. Vygotsky began a new Russian Psychology by asking, “What is the subject matter of Psychology?” The same dilemma is being discussed in contemporary Russian culture.

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Psychoanalysis

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Introduction

Psychoanalysis, Sigmund Freud's (1856–1939) life work, was one the last and also one of the greatest systematic attempts to construct a general theory in social sciences, encompassing what is now called clinical and cognitive psychology, aspects of anthropology and sociology, as well as psychiatry and even unrelated fields of literature and art. As such, as a general theory of man and culture, it is a thoroughly modernistic endeavor, firmly embedded in late-nineteenth-century Romantic world view while it also has roots that go back to Enlightenment philosophy.

The term “psychoanalysis” was used for the first time in print in two papers that appeared almost simultaneously in 1896, where it has a limited connotation only, namely referring to a clinical method to treat patients suffering from hysteria. However, at the time of Freud's death, a good 4 decades later, the word “psychoanalysis” referred to what W.H. Auden aptly called “a climate of opinion” – not just a scientific method nor a particular world view but a “cultural orientation.”

Psychoanalysis started as a scientific enterprise in the margins of medicine in the first decade of the new century, brought about by the publication of a series of books covering a wide range of psychological subjects. At first it was little more than a small discussion group at Freud's home address, but it gradually developed into what eventually became known as the International Psychoanalytic Society. From its popularization during the years in between the wars, to the founding of the first specialized journals and the establishment of specific training practices, all outside academia, to the great exodus of European analysts just prior to the Second World War, the growth and partial transformation of psychoanalysis and the gradual decline of the “talking cure” due to, among other factors, long judicial battles over whether laymen should be able to get access to the profession as well as the growing influence of medicine in psychiatry. In short, the twentieth

century has seen the rise and fall of psychoanalysis as a “paradigm.”

Overviewing psychoanalysis as a “grand discipline,” a common distinction is followed, differentiating between (a) psychoanalysis as a “movement,” implying processes of institutionalization and popularization; (b) psychoanalysis as a scientific theory, characterized by different phases and developments; (c) psychoanalysis as a therapeutic endeavor, which includes not only a systematic method of treating patients but also aspects of training and schooling, and (d) psychoanalysis as a cultural factor or influence upon society at large (see Moscovici 1961 for an early and still very interesting analysis of psychoanalysis as a sociological phenomenon).

The amount of literature on all four aspects is, however, so immense that it would be impossible to even begin to summarize the most important sources, let alone present a complete picture. Instead a general historical account of the development of psychoanalysis is presented, from its beginning to the death of Freud, with brief references to the years thereafter. The reader is referred to the most important sources that allow further study in all four domains. No original perspective or new interpretation of psychoanalysis is offered. Also, this entry does not cover Freud's biography or any of his followers in any detail (but see elsewhere in this Encyclopedia), nor does it deal extensively with all the later developments in psychoanalysis or the many theoretical hairsplitting that were to follow later. Finally, it does not offer technical explanations of psychoanalytic terms (but see Laplanche and Pontalis' excellent work *The Language of Psychoanalysis* (1988) for brief encyclopedic entries on all the various terms), nor does it offer philosophical or other detailed discussions or critiques. References to Freud's works are to the *Standard Edition* (SE), in English, edited by Strachey et al.

Preparatory Years 1873–1897

Evidently, the early history of the psychoanalytic movement coincides with Freud's own biography. Of the at least two dozen biographies or so that have appeared on Freud, Jones' three volume *The Life and Work of Sigmund Freud* (1953–1957) remains authoritative, despite all the criticism that has been leveled against it. Ronald Clark's (1980) more popular volume and

Peter Gay's (1988) impressive more recent account offer additional insightful studies; the latter is especially mentioned for its rich bibliographical essay that very briefly discusses a huge amount of biographical literature.

Freud was a Jew, born in the second half of the nineteenth century, in a very distinctive cultural and political climate and raised in a very distinctive city (Vienna) of a very distinctive empire. A bourgeois, anti-Semitic culture, parred with a positivistic scientific climate defined the parameters of psychoanalysis (see Schorske 1981, for a very detailed picture of political and cultural fin-de-siècle Vienna).

At the age of 17, Freud entered the University of Vienna in 1873 and joined the medical faculty. He was supervised by physiologist Ernst Wilhelm von Brücke and studied with Prof. Karl Claus, a Darwinist, which both left a lasting impression of Freud (see Ritvo 1990). In his *Lectures on Physiology*, Brücke proposed the radical view that the living organism is a dynamic system to which the laws of chemistry and physics apply: This is often considered the starting point for Freud's dynamic psychology of the mind and its relation to the unconscious (see Bernfeld 1944).

Indeed, the influence of Brücke upon his development was considered "significant" by Freud himself, who thought of him as one of the two first teachers in his field (the other being Brücke's assistant, Ernest Fleischl-Marxow, but in the background there were others such as Helmholtz and de Bois Reymond). It was also Brücke who advised Freud to abandon laboratory work as there would be no assistant's post for him (whether this was due to Freud being a Jew or not is subject of discussion), even though he aspired to continue working in this discipline. Freud followed Brücke's advice and entered Vienna's principal hospital, the *Allgemeine Krankenhaus* as an "aspirant" or interneer. There he met psychiatrist Theodor Meynert, who would become the next great influence upon his intellectual development.

Under Meynert, Freud proceeded to study the central nervous system of the human and published several works on organic diseases of the nervous system. Interests in the neurological effects of cocaine resulted in a number of experimental studies, published in the years 1884–1887, in which Freud himself served as his own test subject (none of these studies are included in

the *Standard Edition* or the *Gesammelte Werke*). Allegedly also, as a result of his experimentations, Freud developed a cocaine addiction, which according to E.M. Thornton (1984) would explain his excessive interest in sexuality (being a symptom of this substance abuse). This somewhat preposterous thesis is mentioned only as one of the many examples to "explain away" psychoanalysis using details from Freud's biography.

By October 1885 Freud went to Paris on a traveling fellowship to study with Europe's most renowned neurologist and researcher of hypnosis, Jean Martin Charcot. He would later remember the experience of his stay with Charcot as "catalytic" in turning him toward the practice of medical psychopathology and away from a less financially promising career in neurological research. Upon return, in 1886, Freud married his fiancée Martha Bernays and settled as a private practitioner specialized in nervous diseases. At this time, presumably as a result of his work at the Children's Hospital, where he noticed that many aphasic children had no organic cause for their symptoms, Freud became aware of the existence of mental processes that were not conscious. He wrote a monograph about this subject (also not included in the *Standard Edition*).

Contact and subsequent friendship with physician Joseph Breuer (1842–1925) dating back to the late 1870s and a shared interest in hypnosis, resulted in collaboration on the problem of hysteria which led to a first joint publication in 1893, followed by *Studies in Hysteria* in 1895 (SE 2), now often considered the first psychoanalytic publication, even though it contained only the germs of some psychoanalytic ideas. In *Studies in Hysteria*, Breuer and Freud claim that what hysterics suffer from are their reminiscences – their unconscious memories.

By the mid-1880s, the term unconscious, which was previously associated with unawareness, took on a new meaning – it referred to a part of the mind beyond conscious awareness. The unconscious was a Pandora's box of traumatic memories, taboos, sexual desires, and shameful feelings that the individual refused to reveal because of fear of humiliation or condemnation. Freud, while collaborating with Breuer, turned his attention to his patients' sexual history and fantasies, with a view to understanding how childhood traumas, buried in the

unconscious, could lead to neurosis in adulthood. Tragically, Freud believed, was inherent in the human condition, the consequence of an irresolvable conflict between man's instinctual sexual nature and demands of civilization.

Cure, or at least relief from symptoms, seemed to be brought about when patients began to speak about their illness, as Breuer had discovered when he treated a hysterical patient named "Anna O" (real name Bertha Pappenheim) in 1880. Treatment thus depended upon the ability of patients to reveal their unconscious thoughts and feelings, hence the name "talking cure." The cure required some method of discharge or "abreaction" of build up psychological tension (Breuer used the term catharsis).

It was Freud who had convinced Breuer to publish the case. Thus, Anna O became the first psychoanalytic patient. She was never treated by Freud and it was not before long that Freud became increasingly critical of Breuer's treatment of Anna O, arguing that he had disregarded the affectionate feelings of his patients toward him.

The history of Anna O has given rise to a remarkable amount of debate among historians. There seems to be much uncertainty about the Anna O's actual condition as well as about the extent of her clinical improvement following Breuer's treatment. It was conformed that despite Breuer's "cure," she was admitted to a sanatorium shortly thereafter (see Borsch-Jacobsen 1986, for literature on Anna O).

And so, by the time *Studies* came out, the collaboration between Freud and Breuer has already begun to deteriorate. Freud now also put much more emphasis on sexuality as one of more fundamental contributing factors in the etiology of hysteria than Breuer, which was another cause of dissent (see Sulloway 1979, for an excellent discussion of Freud's early work and thinking).

Still heavily vested in biological thinking, Freud undertook at this point in his career an attempt to conceptualize theoretically a radical new approach within psychology, which resulted in the abandoned *Project for a Scientific Psychology* (SE 1), in which Freud had wanted to create a science of the mind on an epistemological par with medicine, with the same useful applications as medicine (Flanagan 1987). The *Project* was not to be published for a long time and in fact addressed to one reader only, the Berlin nose and throat

specialist Wilhelm Fliess (1858–1928) whom Freud had encountered in 1887 and began corresponding with that same year. Freud's relationship with Fliess is one of the most significant early influences on Freud at this point in his life. He was, says Gay (1988), the necessary friend and enemy Freud needed to develop his own ideas ("my alter," Freud wrote to Fliess). For several years, they would have regular meetings which Freud jokingly called their "private congresses," during which they would discuss scientific issues (see Farrell 2001, for an interesting analysis of the creative dynamic in the relation between Freud and Fliess).

The *Project*, retrieved from their correspondence and first published in 1950, already contains in rudimentary form a number of important psychoanalytic distinctions, notably between a perceptual system of neurons, an unconscious system, in which most of our mental life takes place, and a consciousness inducing system. The *Project* was not meant to be published however, and was left unfinished. Clearly, Freud was struggling with a fairly mechanical and still very biological conception of psychological mechanisms. Thus, in the introduction to the *Project*, the editors wrote "internal forces are scarcely more than secondary reactions to external ones. The id, in fact, is still to be discovered." The *Project* marks the end of the first phase in Freud's development.

Early Beginning and Self-Analysis 1895–1902

Midway the 1890s Freud's conception of hysteria began to change. In a now famous letter to Fliess dated September 21, 1897, Freud sums up his reasons for abandoning the "seduction thesis," his earliest theory to explain hysterical symptoms. That letter also contains his main arguments for postulating a much more psychological theory. To a certain extent, this marks the birth of psychoanalysis as it is commonly known.

When Freud, following Breuer, first began to use the "talking cure," his patients would "remember" incidents of having been sexually seduced in childhood. Until this point, Freud believed that they had actually been abused, only to later repress those memories. However, as Freud now wrote to Fliess, he believed this first theory had become untenable. As a result of his work with his patients, Freud learned that a majority of his patients complained of sexual

disturbances, many having to do with coitus interruptus as a form of birth control. He suspected their problems stemmed from cultural restrictions on sexual expression and that their sexual wishes and fantasies had been repressed. So rather than actual experiences, internal or psychological processes seemed to be at play.

Between this “discovery” of the unexpressed sexual desires and the relief of the symptoms by abreaction, Freud began to theorize that the unconscious mind had determining effects on hysterical symptoms. This then marks the birth of “modern psychoanalysis.” This introduction of a qualitative factor (as opposed to a quantitative or purely neurological factor) would alter the theory of neurosis and consequently also the therapeutic procedure involved, as well as the method of research (see Ellenberger 1970, for an extensive discussion of the roots of psychoanalysis).

It is still in the late 1890s when Freud began to work on his Magnum Opus, his book on dreams, while at the same time his relationship with Fliess began to deteriorate, due to scientific disagreements and issues of priority. Just as with Breuer, this break too upset Freud, and although it is difficult to estimate exactly how traumatic this break was to him, it has been argued that after the loss of Fliess, Freud did not dare to fully trust another person again (with the possible exception of Jung). His years of “splendid isolation” now began: a creative period of relative seclusion (Freud did have a small teaching position as a *Dozent* at the Vienna university but was otherwise cut off from Academia) during which his most important works were written (see Ellenberger 1970, who argued that this period represented a “creative crisis” in Freud’s life).

The beginning of the end of Freud “splendid isolation” is marked with the publication, in 1900, of *The Interpretation of Dreams* (SE 4/5), a work with tremendous scientific pretensions. This book can be (and often is) considered the first “real” psychoanalytic publication since it capitalizes on (a) the relation between manifest and latent content (of dreams), (b) the use of free associations to explore unconscious mechanisms, and (c) the symbolic nature of innocent representations.

Indeed, to this day, this book remains a key publication in Freud’s oeuvre. It has been updated by Freud several times with each new edition. Interestingly, the

author opens *The Interpretation of Dreams* with a statement about his theoretical accomplishment:

- In the following pages I shall provide proof that there is a psychological technique which allows us to interpret dreams, and that when this procedure is applied, every dream turns out to be a meaningful, psychical formation which can be given an identifiable place in what goes on within our waking life.

He maintains as one of his key findings that dreams are never meaningless but always the fulfillment of a wish. He provides ample examples of this principle, many of which are autobiographical. Thus in the famous dream of “Irma’s injection,” Freud explains that each element in the dream is meaningful and that the main instigating force for it was a wish to absolve himself from any blame for the lack of complete success in the treatment of Irma’s condition. Later reinterpretations have traced this dream back to Freud’s traumatic break with Fliess (see especially Masson 1984, who proposed the controversial thesis that Freud’s rejection of the “seduction theory” actually meant a conscious subversion of the truth).

The main claim in *The Interpretation of Dreams* is that dreams, far from being meaningless, are in fact “constructed by a highly elaborate intellectual activity.” What appears to be trivial nonsense in a dream, can, through the process of analysis, be shown to express a coherent set of ideas. This goes for anxiety dreams, absurd dreams, and nightmares as well as ordinary dreams, which all are believed to be expressions of unconscious desires. Freud explains that the process of “censorship” in dreams causes a distortion of the dream content while the forgetting of dreams serves the purpose of resistance. These examples of “dream work” illustrate that the mind condenses, distorts, and translates (latent) “dream thoughts” into (manifest) dream content. Freud therefore proposes that the ultimate value of dream analysis may be in revealing the hidden workings of the unconscious mind.

Since so much of the material in *The Interpretation of Dreams* is in fact autobiographical, this book is considered Freud’s self-analysis. Thus Freud was not only the inventor of psychoanalysis, he was also his own therapist. The consequence of which was that in order to become a psychoanalysis, one had to appropriate Freud – his language as well as his history.

The first edition of *The Interpretation of Dreams* did not sell well: It took some 10 years before a second edition would be needed, a fact that Freud took as a sign of neglect by the scientific community, which he both resented and took pride in. Indeed, Freud's approach was deliberately "marginal," in terms of both scientific objects (dreams) and its interpretative methodology. He complains in the second edition that colleagues in psychiatry did not take the trouble to read his book because his ideas were so "new." This ambiguous, equivocal stance toward mainstream sciences characterizes its discourse, which in several ways is unique, both stylistically (see Mahony 1987) and rhetorically (see Jaffe 1990).

Interestingly, one of the great myths surrounding Freud is that he was forced to move outside academia because he was ignored by academic psychiatry. However, historic research shows that the reverse is true. Freud was already largely outside the scientific world when he wrote this book, which in fact was received quite constructively, although also somewhat critically (see Decker 1977 and especially Sulloway 1979). Thus right from the start, psychoanalysis would be characterized by a constant dynamic of inclusion and exclusion, defense and offense, attempts to persuade and at the same time fend off outsiders (see Bos et al. 2005). Consequently, long after Freud's death, debates on psychoanalysis were still caught in the extremely polemical "if you're not for it, you're against it" mode (see Frosh 1997, for a refreshing attempt to escape this dichotomy).

Formative Years 1902–1910

With the foundations of his new approach published in 1900, Freud began to produce a series of volumes that applied his method to other domain. Of these *The Psychopathology of Everyday Life*, published in 1901 (SE 6) and his book on jokes from 1905 (SE 8) stand out. The first is an attempt to explain common (everyday life) unintentional occurrences, such as slips, errors, mistakes, the forgetting of names or words, etc., by applying the same psychological processes that determine the unconscious which are also to be found in dream life. This book is one of the most accessible and frequently translated of his volumes, and indeed, since it is so easily readable it would fulfill the purpose of bringing the gospel to both the laymen and to the

professional. Freud wrote "this book has an entirely popular character; it merely aims, by an accumulation of examples, at paving the way for the necessary assumptions of unconscious yet operative mental processes, and it avoids all theoretical considerations on the nature of this unconscious."

His psychopathology book is something of a cross-over between psychiatry and cultural studies, making it difficult to situate it in the scholarly academic structure which was still, generally speaking, a conventional structure. Consequently, it attracted little attention during the first few years of its existence. When Freud expanded its text and published it as a book 3 years later, Theodor Ziehen, a leading expert in the field, said it deserved "many but critical readers" (quoted in Decker 1977, p. 143).

Central in the book is the analysis of a case of forgetting of the "aliquis" in a poem by Virgil. The case has been analyzed and reanalyzed endlessly (see Timpanaro 1976, for a detailed discussion). It presents the reader with two elements: an autobiographical story presented in the form of a riddle (What is the next word in Virgil's *Aeneid* and why can't I remember?), as well as an explanation/resolution presented in the form of a confession (a psychological complex, a certain wish, resistance to something). It is important to note that at his point in history, none of his ideas were taken for granted, yet Freud was already certain that in 5–10 years' time, his "Psychopathology" would be considered *doxa*; such was his confidence in his own discoveries.

The book on *Jokes and the Relation to the Unconscious* sets out to investigate the underlying psychological meaning of jokes, which is, Freud claims, by and large almost always aggressive in nature. Again several unconscious psychological mechanisms are at work here, such as condensation, displacement, and representation, that allow the speaker as well as the listener to enjoy the joke without transgressing the cultural demands (and hence feeling guilty or embarrassed). The psychogenesis of jokes reveals that the pleasure in a joke is derived from a play with words or from the liberation of "nonsense" to protect that pleasure from being done away with criticism.

These two ground laying works, as well as his university lectures, attracted the interest of a small group of students who began to hold weekly informal

gatherings at Freud's office to discuss this "new psychology." These were Freud's first followers, who within a few years would form the Vienna Psychoanalytic Society (see Grosskurth 1991). Records of their meetings have been kept from 1906 on and were later published (Nunberg and Federn 1962–1975). Although many members were medical doctors, most were much more interested in cultural applications of psychoanalysis than in therapeutic possibilities, with which few had firsthand experiences. Not surprisingly, the very first psychoanalytic periodical to be published under Freud's editorship, the "Series on applied mental science" (*Schriften zur angewandten Seelenkunde*), ran exclusively literary and biographical studies, such as Freud's own study on *Delusions and dreams in Jensen's Gradiva* from 1907 (SE 9). Also, Freud, wary that psychoanalysis be absorbed by medicine, not only encouraged nonmedical applications of psychoanalysis, he strongly suggested that the practice of psychoanalytic therapy not be restricted to medical doctors only.

In the first decade of the twentieth century, psychoanalysis thus slowly emerged as a "scientific school." Among the most important early followers were Paul Federn, Eduard Hirschmann, Otto Rank, Wilhelm Stekel, and Alfred Adler, all from Vienna. Many would soon start to practice psychoanalytic therapy. The latter two furthermore edited from 1910 to 1914 a monthly journal (the *Zentralblatt für Psychoanalyse*) whose main function it seems was to disseminate psychoanalytic knowledge among a broader educated public. However, as the ideas and practices of many early followers differed from Freud's in a number of essential respects, significant friction would occur before long (see Bos and Groenendijk 2007 for a discussion of the friction between Freud and Stekel).

While the first expansion of psychoanalysis rested on the theory of dream interpretation and above all on literary and cultural applications, what was missing was a model of the development of the human mind. Freud made up for this lack with the publication of a theoretical exposition on the etiology of anxiety neurosis, neurasthenia, and psychoneurosis, published as *Three essays on the theory of sexuality* (SE 7).

Apart from *The Interpretation of Dreams*, the "three essays" are considered Freud's most important contribution to the human sciences. It too was revised and updated by its author several times. His aim was to

explain the origin of sexual "aberrations," such as "inversion" of sexual objects (homosexuality), fixations (including sadism and masochism), and other neurotic sexual preferences.

Freud proposed a model of psychosexual development that he theorized to be universally valid. He derived his model from ancient mythology and contemporary ethnography, although it appears to bear autobiographical observations as well. He wrote: "I found in myself a constant love for my mother, and jealousy of my father. I now consider this to be a universal event in childhood." The event Freud refers to here is known as "the Oedipus complex," perhaps Freud's most well-known "discovery." He recognized in the development of the dynamics of the mind a distinct pattern that follows certain stages. Each stage represents a progression into adult sexual maturity, characterized by the resolution of certain conflicts.

Thus, during the "oral phase" (first year) the child struggles with the conflict between protection and neglect; during the "anal stage" (years 1–2) between retention and letting go; and during the "phallic stage" (years 3–6) with gratification and guilt. The "Oedipus conflict" typically points to a basic problem that humans need to deal with: incest desire on the one hand, and the problem of repression on the other. Two further stages (latency phase and genital phase) characterize the development of the ego toward maturity.

The theory of developmental stages proposed in the "three essays" has been considered ground laying in developmental psychology, but has also been strongly criticized. Early attempts to confirm the theory were remarkably successful, but oftentimes biased and, in one case, fraudulent (the publication in 1921 of a diary of a young girl, by psychoanalyst Hermine Hug-Hellmuth, confirmed to the detail Freud's theory but was completely fabricated). Its neglect of female development and its one-sided emphasis on males ("phallocentrism") has led female analysts to propose a specific female sexuality, characterized by its own conflicts.

Freud's own work from this period includes furthermore two case histories. The first case history is *Fragment of an analysis of a case of hysteria* (SE 7), better known as the "Dora" case study, published in 1905. Eighteen-year-old Dora diagnosed with hysteria was

analyzed only briefly by Freud in 1900. The entire analysis rests on the interpretation of only two dreams by the girl (see Decker 1991, for a historical reading of the Dora-case). Although the cure itself was incomplete, the importance of the case history lies in the recognition of two important psychological mechanisms: resistance and transference. Resistance refers to an unconscious struggle or conflict in the mind of the patient, transference to the reproduction of that conflict in terms of new symptom produced or triggered by the treatment itself. Freud realized that these principles represented the two main tools with which an analyst has to work.

Two further case histories, both published in 1909, are *Analysis of a phobia in a five-year-old boy* (SE 10) and *Notes upon a case of obsessional neurosis* (SE 10). The first is a case of a phobic boy ("little Hans"), not treated by Freud himself. It contains some of Freud's most important ideas on psychosexual developmental, in particular his notion of the Oedipus complex (the struggle in boys to compete with the father for the affection of the mother). The second case history (that of the so-called Rat man) outlines the intricate unconscious thought processes in obsession which at first glance do not seem to make sense but reveal a hidden logic.

From 1907 onward, Freud's followership was expanded beyond Austrian boundaries when Swiss psychiatrist Eugene Bleuler (1857–1939), director of the psychiatric clinic Burghölzli, took an interest in psychoanalysis and began to encourage his staff to study unconscious and psychotic mental phenomena. Although Bleuler's interest faded fairly quickly, by 1907 a regular contact was established between Freud and some of Bleuler's students, most notably Franz Riklin and Carl Jung, who used word association tests to integrate Freud's theory of repression with empirical psychological findings. Riklin and Jung were also the editors of the voluminous "Psychoanalytic Yearbook" (*Jahrbuch für psychoanalytische und psychopathologische Forschungen*), the first journal to publish psychoanalytic research, which appeared between 1909 and 1914.

Karl Abraham, then a student of Bleuler who later moved to Berlin, and Sándor Ferenczi of Budapest joined the growing body of followers that same year (1907), soon joined by Ernest Jones from England, Brill, Putnam, and Jelliffe from the USA, as well as

others in Holland, France, and Italy (see Alexander et al. 1966, for brief biographies of most early followers). By now, psychoanalysis was beginning to assume the properties of a "movement." Bi-annual congresses, three periodicals, and a growing body of literature, not just by Freud but by his followers also, all securely placed outside academic circles, attracted the interest of the public and at least in literary circles, psychoanalysis became "fashionable."

In 1909, Freud reluctantly accepted an invitation by G. Stanley Hall to receive an honorary degree at Clark University. His journey to the USA, in the company of Jung and Ferenczi, won him numerous new adherers there too but did not free him from his lifelong misgivings about America (Rosenzweig 1992). Freud's influence on American "medicine" would nevertheless steadily increase (see Burnham 1967; Hale 1971).

Institutionalization and Consolidation 1910–1925

The founding of the International Psychoanalytic Association (IPA) in March 1910 at the Salzburg conference marks the beginning of a new phase in psychoanalysis. The first generation of followers had stood in close personal contact with Freud through both correspondence and face-to-face contact (many correspondences with Freud have now been published; they give an invaluable insight in the development of psychoanalysis). As their numbers grew, this type of informal management would no longer be possible and hence formal rules had to be introduced regarding admission to the society and to training practices. Therefore, in the next decade, psychoanalysis institutionalized its practices. To become a psychoanalyst, one had to go through a whole series of initiation rituals, including an authorized analysis by a training analyst (see Wallerstein 1998; Bos 2001).

The institutionalization of a "training analysis" during this phase, in which the analyst in training himself is analyzed by a senior analyst in order to get free from unconscious constraints, proved to be a singularly important constitutive principle in psychoanalysis. It safeguards transfer of psychoanalytic knowledge and allows it to remain "pure" at the same, since there runs a straight line from Freud, who had analyzed himself, to the first generation of analysts, many of whom had not been analyzed but instead

had received some form of personal instruction from Freud, to the third, fourth, and further generations.

Two issues related to the institutionalization of psychoanalysis emerge at this point. One is that immediately after the founding of the IPA, psychoanalysis began to expurgate “dissident” followers. Among the first were Alfred Adler, Wilhelm Stekel, and Carl Jung, who for different reasons would not adhere to the strict Freudian doctrine. Especially the loss of Jung is considered important, because Freud had hoped that he would succeed him (see the Freud–Jung correspondence edited by McGuire 1974). Jung was followed by a long list of dissenters who have been expelled from the movement at one point or another (these include Otto Rank, Wilhelm Reich, Jacques Lacan, and many others). Freud’s own polemical account of these early schisms was published in 1914 (SE 14).

A second development concerned the question of whether or not nonmedical analysts were allowed to analyze patients. The Americans in particular were against all forms of so-called wild (or non-medical) analysis, but Freud himself and several European analysts were not. After the Second World War, with a large parts of the psychoanalysts (many of whom were Jewish) having fled to the USA or England, the controversy would effectively be settled in favor of what Kurt Eissler (1965) called “medical orthodoxy” (see Wallerstein 1998 for an insiders’ perspective on the problem of “lay analysis”).

By the 1920s, to the public at large, psychoanalysis had become a respectable branch of science, thanks, in part, to Freud’s *Introductory Lectures* (ES15/16) which specifically addressed a lay public. Also the works of novelists such as Thomas Mann (*The Magic Mountain*, 1924) and Italo Svevo (*Confessions of Zen*, 1923) helped popularize psychoanalysis, as well as *Secrets of a Soul* (1925), a full-length feature film by the German film director Wilhelm Pabst, which took a psychoanalytic case history as its point of departure.

In theoretical respect, a series of papers by Freud, which appeared between 1914 and 1917, Ferenczi’s paper on introjection (1909) and Abraham’s technical papers, such as the one on the female castration complex (1920) signify the growth and development of psychoanalytic vocabulary at this point in time. For sure, a mature theory began to emerge, in which various theoretical notions were now well connected.

Freud’s paper on narcissism, for example, introduces the notion of ego-ideal and discusses the problem of ego-libido and object-libido. In “instincts and their vicissitudes” (1915), “Repression” (1915), and “The Unconscious” (1915) he now presented a systematic and coherent exposition of his psychological theories. Still utilizing an energetic system as proposed in the abandoned “Project,” Freud conceptualized in his paper on the unconscious the question of energy directed at the self versus energy directed at others. And in “Mourning and Melancholia,” which appeared in 1917 (SE 14), he suggests that certain depressions were caused by turning guilt-ridden anger on the self.

A second wave of theoretical papers appeared in the early 1920s and marks the final development of psychoanalysis under Freud’s auspices. Notably his works *Beyond the Pleasure Principle* (SE 18) and *The Ego and the Id* (SE 19), from 1920 to 1923 respectively, contain important improvements or elaborations of his theoretical framework. *Beyond the Pleasure principle* introduces the notion of “pleasure principle” and “reality principle” as two vitally important mechanisms within the mental apparatus. *The Ego and the Id* distinguishes between the three main psychological dynamic systems “Id,” “Ego,” and “Super-ego” that replace the former distinction between conscious and unconscious. In this book, repression is now considered one of many defense mechanisms that occurs to reduce anxiety.

Not all of Freud’s new distinctions were immediately accepted by his followers. In particular, the notion of “death instinct” (borrowed from Swiss analyst Sabine Spielrein and introduced in *Beyond the Pleasure Principle*) was rejected by many, while the tripartite Id–Ego–Super-ego may have been widely accepted, but its use varied widely. Thus, later revisions of psychoanalytic therapy heavily emphasized the Ego-component, from which eventually “Ego-psychology” emerged, particularly strongly represented in the USA.

By the mid-1920s, psychoanalysis thus had evolved in a formal society, a full blown theory, a standardized practice with its own rules of admission and training. It had its own press (a publishing house, several journals), was recognized by the public as a serious scientific school and had now also a footing in academia, notably in medicine, in many Western European countries.

Disintegration and Regrouping of Psychoanalysis 1925–1950

Among Freud's last major contributions are his papers on religion and questions of sociology. These are also his least accepted works. *The Future of an Illusion* (SE 21) and *Civilization and its Discontents* (SE 21), both described religion as a phase in evolution of mankind, eventually to be replaced by scientific thought (even though he remains pessimistic about the capacity of man to free himself from this collective neurosis). Several psychoanalysts, among whom Oskar Pfister, a close friend of Freud who wrote a rebuttal titled the *Illusion of a Future*, objected to such a pessimistic view.

In *Inhibitions, Symptoms and Anxiety* (SE 20), published in 1926, Freud laid out how anxiety is caused by an intrapsychic conflict between drive and super-ego and how anxiety may lead to a further inhibition of mental functions. *Inhibitions, Symptoms and Anxiety* was written partly in response to Otto Rank, an early follower of Freud who had proposed in *The Trauma of Birth* that separation anxiety plays a major role in the onset of neurosis. According to Rank, separation anxiety takes place at a developmental phase even before the onset of the Oedipus complex. This was impossible according to Freud, who saw the Oedipus complex as the nucleus of neurosis and the foundational source of all art, myth, religion, philosophy, indeed of all human culture and civilization. Rank's suggestion that the Oedipus complex might not be the only factor contributing to intrapsychic development led to an estrangement from Freud, who would eventually exclude him from the inner circle.

By the early 1930s, in Germany the Nazis climbed to power, which would cause many analysts (a majority of whom were Jews) to flee the country. Many settled in England and the USA. After the occupation of Austria (the so-called Anschluss) Freud too escaped, just in time; he ended up in England where he died in 1939.

In the years leading up to the Second World War, the psychoanalytic movement slowly began to dissipate, despite attempts to safeguard it from outer influences (a group of loyal followers around Freud's youngest daughter Anna Freud took it upon themselves to fence off any and all "intruders"). Both internal critique and emerging postwar demands led to a large number of neo-analytic schools, of which only the most important ones shall be mentioned briefly here.

A first group of neo-analysts, consisting of people such as Heinz Hartmann, Ernst Kris, David Rapaport, and Alexander Lowenstein, developed in the 1950s an approach known as "Ego-psychology," which became quite influential within psychoanalysis and to this day remains a dominant school therein. This group built upon an understanding of the synthetic function of the ego as a mediator in psychic functioning. Hartmann in particular distinguished between autonomous ego functions (such as memory and intellect which could be secondarily affected by conflict) and synthetic functions which were a result of compromise formation. Ego-psychology found a better fit in US culture than tradition psychoanalysis, as it presents a more optimistic, malleable picture of man.

A second school consists of female analysts who felt dissatisfied with Freud's one-sided emphasis on male sexuality. They argued that he had regarded females basically as "castrated males." Thus Karen Horney, Helene Deutsch, Therese Benedeck, and others, many of whom were trained in Germany and had emigrated to the USA in the 1930s, began to propound "neo-analytic" schools that explored questions of female sexuality and female development, sometimes also called "feminist Freudians." More recent authors would include Nancy Chodorow and Julia Kristeva (see Judith Alpert 1988 for an overview).

A third group of analysts is represented by Melanie Klein and her followers. She represents within psychoanalysis a school called "object-relations theory." In her work, emphasis is put on the development of the subject in relation to others within the environment. The "objects" the theory refers to are both real and internalized images of others. Object relationships are initially formed during early interactions with primary care givers (especially the mother). Today, Kleinian psychoanalysis is one of the major schools within psychoanalysis.

A fourth group of analysts, whose ideas and works have gained influence in the 1950s, consist of followers who have taken psychoanalytic interpretations into the domain of medicine proper. Georg Groddeck from Germany and Smith Ely Jelliffe from the USA and later also Franz Alexander are considered forerunners of what became known as "psychosomatic medicine." These theorists sought to establish a link between somatic and unconscious psychological processes.

Groddeck, to whom Freud owed the concept “id” (*das Es* in German), for example insisted that all bodily processes have a psychological counterpart (thus nausea represents the unconscious wish to get rid of something one cannot stomach, etc.).

From a political point of view, a group of left-winged analysts were attracted by the potentially liberating capacity of psychoanalytic doctrine, which they transferred to the domain of politics when they tried to combine Marxism with Freudianism. This group was initially represented by figures such as Otto Fenichel and Wilhelm Reich (who both immigrated to the USA), later by a group of sociologists from Frankfurt, notably Erich Fromm, Herbert Marcuse, Theodor Adorno, and others, who formed the “Frankfurt School of Social Research.” Some theorists (such as Fromm) remained fairly loyal to some of Freud’s principles, others, however, digressed far from psychoanalysis (see Robinson 1969, for an interesting discussion of the “Freudian Left”).

Finally, in France a radical new approach to psychoanalysis was offered by Jacques Lacan and later also Giles Deleuze and Felix Guattari, whose works have slowly gained influence outside of France (and reached their peak in the 1990s). Lacan (1977) integrates psychoanalysis with semiotics and Hegelian philosophy. He emphasizes the unconscious workings of linguistic processes (hence his famous saying that the unconscious is structured like a language). Deleuze and Guattari (1984) on the other hand have tried to match psychoanalysis with postmodern theory. Their works draw on Freudian theories but are at same time extremely critical of it.

Taken “orthodox” approaches together with all its various, sometimes contradicting approaches, the influence of psychoanalysis in the first 2 decades after the Second World War remained fairly considerable, especially in psychiatry. The first two editions of the *Diagnostic and Statistic Manual of Mental Disorders*, the leading sourcebook in psychiatry (DSM I and II, published in 1952 and 1968), are clearly marked by psychodynamic models of the mind inspired on Freud. In the 1960s, however, psychoanalysis was beginning to lose ground, as can be evidenced from the third edition of the DSM, published in 1980 and revised several times since.

Critique and Decline, post 1950

Psychoanalysis, both as a theory and a “movement” has always been subject of severe critique, within academia and outside of it, but it succeeded to survive until well after the Second World War. In the post 1950s, however, the Freudian empire slowly but surely crumbled and by the turn of the new century it has all but been abandoned, at least in its traditional form.

There are several reasons why psychoanalysis lost its appeal. One is that in the 1960s a new generation of much more effective medication hit the market, rendering psychodynamic approaches not only much more costly but also in fact less effective. Secondly, due to a series of judicial battles, nonmedical therapists (mostly psychologists) were finally allowed access to psychoanalytic training institutes in the USA, which in consequence meant a significant lowering of the status of the professional psychoanalyst. Lastly, several waves of critique attributed to its decline. Some of these critiques shall be discussed briefly below.

One of the first important postwar critics was Karl Popper (1990), who argued that psychoanalytic explanations are “unfalsifiable.” Its claims are not testable and therefore cannot be refuted; this makes psychoanalysis a “pseudoscience.” Similarly, Hans Eysenck (1985) strongly criticized the dogmatic and sect-like attitude of psychoanalysts, who anxiously refuse outsiders entrance into their circles and are afraid to enter into debate with them. Attempts from within hermeneutics to defend its scientific claims (Spence 1987) were unconvincing or only succeeded in moving psychoanalysis away from “hard core” sciences, into the domain of “literature.”

In the 1970s and 1980s a host of critical historical literature was published, set out to damage Freud’s reputation and, by implication, the reputation of psychoanalysis as a whole. This resulted in sometimes outrageous claims, such as that Freud was a cocaine addict, or in moral reproaches (for instance that Freud may have had an affair with his sister-in-law, etc.). Some of this “Freud bashing” continues to this day (see Crews 1995, for a more recent illustration).

A more serious attack was leveled by philosopher Adolf Grünbaum (1985), who argued that psychoanalytic claims to therapeutic success are based on circular reasoning. Thus Grünbaum demonstrates that when psychoanalysts claim that a particular therapeutic

intervention (an “interpretation”) can be shown to be effective on the grounds that it does something in the patient, it presupposes that such an interpretation actually may do something in the first place. Discussions following Grünbaum’s work reveal that psychoanalysis was unable to refute this charge.

Debates about the scientific status of psychoanalysis continue to this day, but the number of patients who submit themselves to classical psychoanalytic psychotherapy has diminished dramatically in many countries, even though many forms of psychotherapy are still being practiced, based, at least in part, on Freud’s ideas. However, use of psychoanalysis as a “scientific endeavor” today is effectively restricted to the domain of “cultural studies,” that is, as a form of literary critique. It thus ended where it started.

See Also

- [Analytic Psychology of Carl Jung](#)
- [Bleuler, Eugen](#)
- [Breuer, Josef](#)
- [Deutsch, Helene](#)
- [Erikson, Erik](#)
- [Klein, Melanie](#)
- [Rank, Otto](#)
- [Trauma Psychology](#)

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Psycholinguistics in Historical Perspective, From Monologue to Dialogue

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A Perspective on the History of Psycholinguistics

In a recent article entitled “Recapturing a context for psychology: The role of history,” Benjamin and Baker (2009, p. 97) have stated:

- *With the ever-increasing fragmentation of psychology into narrower subspecialties, the field devolves further and further into a focus on specialized knowledge, answering smaller questions and avoiding the larger and more meaningful ones.*

Their complaint pertains to psychology in general, and the authors suggest that in order to regain a broader intellectual context, “an understanding of the history of psychological science offers a way.” In the following, we wish to take Benjamin and Baker’s lead and apply it to the subdiscipline of psycholinguistics. Our aim is to show that the historical development of psycholinguistics gives hope for a gradual perspectival shift both from an emphasis on the written to an emphasis on the spoken and from monological to dialogical language use.

Accordingly, we wish to inquire as to what psycholinguistics has been up to. Suffice it to say that mainstream modern psycholinguistics began in the mid twentieth century. But already by 1980, the “Quo vadis, psycholinguistics?” question was being posed by the Romanian psychologist Tatiana Slama-Cazacu (1980, p. 93), specifically in terms of “Should and can psycholinguistics contribute to the improvement of human communication?” Her answer was an emphatic affirmative: Psycholinguistics has both “the scientific methodological possibility” and “an obligation” to make such a contribution (p. 93). But more than a quarter of a century later, the German psychologist Theo Herrmann (2006, p. 420; our translation) has been less optimistic and has accordingly expressed his dissatisfaction that a “psychology of language use” (“Sprachpsychologie”) is currently not adequately engaged by psychologists, especially in Germany. In this context, he has asked an even more fundamental question than the one asked by Slama-Cazacu: “What is it about language that makes it so intractable for psychologists?” (p. 420; our translation). He has suggested that one reason for the inordinate intractability of language is that the term *language* has multiple meanings: What *language* means in any specific instance depends upon the *status questionis* proper to a given approach to the study of language use. This in turn is dictated by many contingencies – historical, sociological, and personal/biographical. Herrmann (p. 421; our translation) has spelled out three psychological perspectives: language as “a species specific mental faculty,” as “a process of speaking under neurological/physiological control,” and as “the most important vehicle for interaction between two or more people.” He has concluded that these three perspectives have not been integrated: “Psychologists of language use have not yet succeeded in developing a standard theory of language use that is adequately empirically based” (p. 422; our translation).

The present essay accepts the problematic nature of psycholinguistics itself as the central theme of its history and current development. More specifically, it emphasizes the gradual development of modern psycholinguistics from a preoccupation with language as “a species specific mental faculty” to an engagement of language as “the most important vehicle for interaction between two or

more people.” The history of neuropsycholinguistics will not be engaged herein (but see, e.g., Altmann 2006).

Early History of the Psychology of Language Use

In fact, a great deal had already been written about language use before the mid twentieth century. On the one hand, some authors emphasized the social aspects of language use. Thus, Moritz Lazarus (1879/1986, p. 5; our translation), founder, along with Heyman Steinthal, of the *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* in 1859, was already urging the psychological investigation of “everyone’s actual, everyday, ever present conversation,” and Wilhelm Wundt continued to promote a sociocultural approach to language. In fact, according to Clark and Van der Wege (2002, p. 209), “psycholinguistics was launched in 1900 with the publication of Wilhelm Wundt’s *Die Sprache (Language)* as the first two volumes of his monumental *Völkerpsychologie*.” It is interesting to note that Blumenthal (1970, p. 7) considered Lazarus and Steinthal’s *Journal of Social Psychology and Linguistics* (his translation of *Zeitschrift für Völkerpsychologie und Sprachwissenschaft*) “the first journal largely devoted to the psychology of language” (for a thorough discussion of the German contributions from 1850 to 1920, see Knobloch [1988] and the English-language review of his book by Murray [1990]).

On the other hand, the general psychology or *Allgemeine Psychologie* of the second half of the nineteenth century was also rich in language studies. By way of contrast, Cattell (1886) was studying individual words in experimental reading settings, and Ebbinghaus (1885/1964) was investigating memory by means of consonant–vowel–consonant trigrams. A wide diversity of research topics seems to have been characteristic of the nineteenth century, and, according to Gaskell (2007, p. v), still survives in the twenty-first century, with notable differences consequent upon technology, methodology, and theoretical orientation.

But much of the early work was still being done outside of psychology. For example, in the first half of the twentieth century, most of the review articles were published in the *Psychological Bulletin*: Faris (1919), Esper (1921), Adams and Powers (1929), McGranahan (1936), and Pronko (1946). The first of these (Faris 1919) on “The psychology of language” cited

only three references, two of which had appeared in French philosophical journals. Two years later, Esper (1921) cited under the same title 17 references, all but two (12%) of which were from other disciplines than psychology: education (5), linguistics (3), communications (3), biology (2), philosophy (1), and anthropology (1). It was not long before the recognition dawned that research on the psychology of language “demands a type of investigator trained in both linguistics and psychology” (Weiss 1925, p. 57); in other words, the collaboration of psychologists and linguists or other language experts was not considered to be the ideal. The need for linguistic sophistication on the part of psychologists of language themselves is reflected over a number of decades in the three following review articles (Adams and Powers 1929; McGranahan 1936; and Pronko 1946). Therein, a successive decline from a high of 82% in cited references that clearly belong to the psychological literature – a huge and sudden increase over Esper’s (1921) low of 12–64% and then to 56% – was paralleled by an increment in references to linguistics from 11% to 18% and again 18%. This increment also set the stage for a major historical incursion from linguistics in the form of transformational grammar that would notably contribute to modern mainstream psycholinguistics.

Historical Beginnings of Modern Psycholinguistics

At mid twentieth century, World War II was over, behaviorism wasn’t going anywhere, and researchers were regrouping. To expedite the process of transition on the part of both psychology and linguistics, the Social Science Research Council established in the United States a Committee on Linguistics and Psychology in October, 1952 (in association with summer seminars at Cornell University in 1951 and at Indiana University in 1953). Thus, 1952 came to be considered in the course of time as the moment of conception for modern psycholinguistics. Knobloch (2003, p. 19; our translation), in his German-language history of psycholinguistics, has referred to these events as the “founding myth” of the discipline and to the publication resulting therefrom (Osgood and Sebeok 1954; 1965) as the “acknowledged ‘founding document’ of the new psycholinguistics.” But Knobloch himself was of the opinion that the history of psycholinguistics had

begun long before, and Altmann (2006), in his recent history of psycholinguistics, has mentioned neither the committee and seminars nor the Osgood and Sebeok publication.

The task proposed by the Social Science Research Council's committee in their initial seminar is worthy of our attention:

- The seminar first set itself to the task of examining three differing approaches to the language process: (1) the linguist's conception of language as a structure of systematically interrelated units, (2) the learning theorist's conception of language as a system of habits relating signs to behavior, and (3) the information theorist's conception of language as a means of transmitting information. (Gardner 1965, p. x [originally dated May 12, 1954])

In retrospect, this listing may not appear to be the most promising with which to launch a new scientific discipline, but it reflected both the zeitgeist and the cross-disciplinary constitution of the committee quite accurately: (1) structural linguistics; (2) behaviorist and neo-behaviorist psychology; and (3) information theory. The first author of this chapter personally recalls some of the denunciations of behaviorism (for its naivety, reductionism, and/or oversimplifications) heard from the lips of J. S. Bruner, G. A. Miller, and C. E. Osgood a decade later as they moved on into the new psycholinguistics. During the early formative period, a review article by G. A. Miller (1954) entitled "Communication" reflects his own orientation toward communication and information theory at that time. It is of historical interest to note that Miller criticized therein a variety of theoreticians, including Jakobson, Osgood, and Shannon, for their "attempts to optimize something" (p. 418). And he added that such a normative approach "makes many psychologists uncomfortable" (p. 418). However, he was soon to become the leading psychologist proponent of the new transformationalism with its emphasis on yet another normative approach to language use, namely the ideal speaker and listener. And this new orientation on his part was in its own turn to make many psychologists uncomfortable.

Diebold's (1965, pp. 205–291) "A Survey of Psycholinguistic Research, 1954–1964" pinpointed with multiple (>6) citations who the leaders in early psycholinguistic research were: Roger Brown (10),

John B. Carroll (12), Noam Chomsky (10), Eric Lenneberg (12), George A. Miller (18), and Charles E. Osgood (10) – one from the Midwest of the United States (Osgood from the University of Illinois, Champaign-Urbana) and the rest from East Coast institutions, Harvard University and Massachusetts Institute of Technology; all of them psychologists, except for Chomsky; none from outside the United States. Miller (1965, p. 306) also acknowledged: "My own opinions have been strongly influenced by Noam Chomsky." More specifically, Miller adopted a psychological generative or transformational hypothesis to the effect that generative structures of language are paralleled by psychological processes. The German psycholinguist Hans Hörmann (1986, p. 63) expressed this hypothesis as follows:

- At a certain period of its development psycholinguistics considered it to be its task to prove, by means of research into performance (only this can be examined by empirical research), the "psychological reality" of processes and concepts which had been postulated by linguistic competence theory.

The hypothesis itself came in the first instance not from empirical psychological evidence, but from a theoretical claim of one school of linguistics. Although it then elicited a great deal of empirical research, eventually it had to be abandoned for lack of empirical evidence, but seems to be still very much alive in mainstream psycholinguistics even in the twenty-first century (see below the section on [A Return to Dialogue in the Twenty-First Century](#)).

Meanwhile, an emphasis on the use of grammatically well-formed sentences in written experimental materials continued to grow unabated on the part of psycholinguists. And Chomsky (1968, p. 84) was arguing that linguistics is a subdiscipline of cognitive psychology. Chomsky (1965, p. 3) had actually proclaimed the subdiscipline several years earlier:

- Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance.

But from the very beginning, this linguistic concept of the ideal speaker was totally unrealistic from a psychological point of view insofar as it explicitly excluded precisely the *psychologically* relevant conditions of all language use. In historical perspective, then, it is no less than astounding that it became the model for the psycholinguistic concept of the ideal delivery in what was to be the most successful textbook in the psycholinguistics of that time: Clark and Clark's (1977) *Psychology and language: An introduction to psycholinguistics*. According to Clark and Clark, the "ideal delivery" (p. 261) was executed by someone who read a revised written text aloud – without speech error, without hesitation, and without turn-taking. Or to put it in other words: The ideal which determined what was to be considered defective speech included a written text, its fluent performance by reading it aloud, and monologue. Small wonder that Hörmann (1981, p. viii) was led to exclaim that generative linguistics "has nothing (or practically nothing) to tell us about the actual processes of meaning and understanding." It should be added that, in their preface, Clark and Clark (1977, p. vii) had acknowledged that "the primary use of language is for communication. Curiously, this fact has played practically no role in previous treatments of the field." Unfortunately, their own treatment did not succeed in engaging "people's aims in communicating with one another" and hence was unable to "correct this imbalance."

Historical beginnings and indeed the further development of psycholinguistics have been recorded in a notably disparate manner from publication to publication. As noted above, Knobloch's (2003) and Altmann's (2006) histories of psycholinguistics strikingly exemplify this phenomenon. A similar historical anomaly has occurred in psycholinguistic textbooks, wherein overlap of archival references has been quite minimal. For example, O'Connell (1988b, p. 347) reported that, across five textbooks of the 1980s, only six references were common to all: "Bever (1970), Chomsky (1957, 1965), Fromkin (1971, 1973), and Sachs (1967)." O'Connell and Kowal (1997, p. 851) found an additional discrepancy: Whereas Clark and Clark (1977), in the first major textbook in psycholinguistics, had referenced all six of these common sources, H. H. Clark (1996b) referenced none of them. Perhaps even more important in this regard is the title given by

Clark to his more recent book: *Using language*. Therein, he no longer used the term *psycholinguistics*, but instead *language use*. The theoretical and methodological implications thereof will be discussed below in the section on Clark.

Growth of Modern Psycholinguistics

The origin of the term itself – *psycholinguistics* – is dated by Miller (1965, p. 293) as about 1954, but it had already been used without further explanation almost two decades earlier by Kantor (1936, p. 55), who included in his book a section heading "The Psycholinguistic Situation Analyzed," and later by Pronko (1946), himself a student of Kantor, as part of the title of his (Pronko's) review. It is of historical interest that both these scholars were dedicated behaviorists.

Despite or perhaps partly because of its pretentiousness, the designation psycholinguistics stuck. Journals incorporated it (e.g., *Journal of Psycholinguistic Research* from 1972 on, *International Journal of Psycholinguistics* from 1974 on, and *Applied Psycholinguistics* from 1980 on), and the Max Planck Institute for Psycholinguistics was founded in Nijmegen in 1980.

In a certain sense, the term *psycholinguistics* itself contains an important lesson: *Linguistics* is the substantive portion of the term, and the *psychological* component is adjectival to it. It is not surprising that such an approach found its empirical hypotheses about language in linguistic rather than psychological theories. There are actually three common terms currently in use: psychology of language, psycholinguistics, and psychology of language use. Whereas psychology of language and psycholinguistics are typically used synonymously (e.g., Harley 2008), some authors distinguish between terms. For example, Herrmann (2006, p. 419) has considered psycholinguistics ("*Psycholinguistik*") to be a subdiscipline of linguistics, whereas he has thought of the psychology of language use ("*Sprachpsychologie*") as a subdiscipline of psychology.

During the first half of the twentieth century, periodical articles (listed above) entitled "The Psychology of language" were published in the *Psychological Bulletin*: Faris (1919), Esper (1921), Adams and Powers (1929), and McGranahan (1936). A fifth review by Pronko (1946) was entitled instead "Language and psycholinguistics: A review." It included the most numerous reviews in this set of five articles and

presented a thoroughly behaviorist approach to the topic of language use.

In the second half of the century, periodical articles entitled “Psycholinguistics” or some more specific expansion thereof were published in the *Annual Review of Psychology*: Rubenstein and Aborn (1960), Ervin-Tripp and Slobin (1966), Fillenbaum (1971), Johnson-Laird (1974), Danks and Glucksberg (1980), Foss (1988), and Bates et al. (2001). They span a period from 1960 to 2001 – the last year in which psycholinguistics appeared as a separate topic in the *Annual Review*. An analysis of the publication dates of the references in the reviews yielded a clear indication of the heyday of psycholinguistics: The 1960s were the decade of most productive research. The emphasis in the respective reviews, as indicated by their titles, has shifted over the years from “Psycholinguistics” (Rubenstein and Aborn, Ervin-Tripp and Slobin, and Fillenbaum), to “Experimental psycholinguistics” (Johnson-Laird, Danks and Glucksberg, and Foss), and, finally, to “Psycholinguistics: A cross-language perspective” (Bates et al.).

The three reviews written in the 1960s and at the beginning of the 1970s have in common the title “Psycholinguistics.” But their conceptualizations of the discipline are quite different from one another, in keeping with the shifting zeitgeist. Rubenstein and Aborn (1960, p. 291) were clearly influenced by behaviorism:

- Psycholinguistics is not a well-integrated field of study, and one can hardly speak of anything like a general trend in the field as a whole. Nevertheless, a number of studies concerned with the probability of language segments and with word association have brought forth a point of view which stresses the significance of the concept of response hierarchy in interpreting the subject’s performance in various verbal tasks.

A dramatic shift in emphasis is to be noted 6 years later in Ervin-Tripp and Slobin’s (1966) review. Although they still contended, as had Rubenstein and Aborn (1960) before them, that psycholinguistics seems to be “a field in search of a definition” (p. 435), their own definition of the field clearly reflects the influence of transformational linguistics: “the study of the acquisition and use of structured language” (p. 435). Accordingly, their review began with a section on Language Acquisition, followed by sections on Grammar and Verbal Behavior, Linguistic Perception, Internal Language

Functions, and Biological Bases of Language. In addition, they included sections on Extralinguistic Phenomena and Sociolinguistics, topics that were not taken up again in the later reviews. This exclusion parallels the gradual introduction of the topic of “Experimental psycholinguistics” as a narrowing movement in the discipline. The Ervin-Tripp and Slobin review can therefore be looked upon as a bridging moment in the history of modern psycholinguistics – retrospective with regard to behaviorism (e.g., Verbal Behavior), while also prospective with regard to the inclusion of extralinguistic and sociocultural topics.

Only 5 years later, Fillenbaum (1971) became the first of these reviewers to take a rather critical stance toward the development of psycholinguistics. He pointed out the difficulties faced by a psychologist who attempts to use a linguistic model: “Shall it be a phrase structure model of the sort presented by Yngve. . . , a stratificational model in the spirit of Lamb. . . , a transformational model after Chomsky. . . , or what, and what difference will a particular choice make?” (p. 253). And he added with respect to the revisions of models developed by Chomsky: “To the extent that psycholinguistic work is based on some linguistic formulation, it may be embarrassing or likely much worse, to find that linguists have now rejected that formulation, making very difficult indeed the interpretation of any result” (p. 254). In view of later reviews, it is of interest that Fillenbaum included a rather long section entitled Experimental Psycholinguistics. Therein, he clearly expressed his concerns about the perspective taken by the experimentalists with respect to language:

- The view of language which has been focal in recent research, perhaps just because contemporary psycholinguistics has been so strongly influenced by work in generative grammar, is one of language as idea, knowledge, or mental structure, largely or entirely abstracted from its setting, from problems of communication particularly in, say, the context of dialogue, and without much serious worry about normal temporal constraints. Obviously such a view of language concerned principally with the perception of and memory for short stretches of monologue excised from any setting and without continuity, to caricature a little (but only a little) is far from being the whole story, and there have been protests, perhaps most vigorously by Rommetveit. (p. 276)

In a similarly critical vein, he warned researchers about unwanted side effects of experimentation:

- We should be alert to the possibility that the results of some (perhaps much) experimental work may be as much a consequence of special ad hoc strategies adopted for coping with particular laboratory tasks as of anything else, and that often subjects may not at all be dealing with what we want them to deal with, and what we think they are dealing with. (p. 277)

With the 1974 review of Johnson-Laird, there occurred a shift in title from “Psycholinguistics” to “Experimental Psycholinguistics.” Accordingly, a focal limitation to “comprehension and its cognate problems” (p. 1345) was established, and this limitation persisted through the following review by Danks and Glucksberg (1980). According to Carroll (1985, p. 839), “it was Miller’s work on the psychology of grammar, inspired by Chomskyan theory and reported in his 1962 paper in the *American Psychologist*, that established the new subspecialty, called *experimental psycholinguistics*.” Foss (1988) further widened the scope of his review of Experimental Psycholinguistics so as to include both comprehension and production. He also made explicit what Johnson-Laird as well as Danks and Glucksberg had done implicitly: He limited his review to “work done with adults” (p. 302).

The last review of Psycholinguistics to appear in the *Annual Review* up to 2010 was published 13 years after the one authored by Foss (1988) – the longest interval between any of these reviews. Bates et al. (2001, p. 369) entitled their review “Psycholinguistics: A cross-language perspective” and thereby emphasized the need for cross-linguistic research in an attempt to identify “universal processes in language development, language use, and language breakdown.” Their contention shows that developmental psycholinguistics, neglected in the reviews on experimental psycholinguistics since 1974, was again being considered a legitimate part of psycholinguistics. Moreover, the inclusion of language breakdown in aphasia as a topic marked another shift toward inclusiveness. Many years earlier, Rubenstein and Aborn’s (1960, p. 308) review had explicitly pointed to methodological difficulties involved in such research:

- The research in the area of language disturbance has been quite unsatisfying from a psycholinguistic point

of view. This is not to make light of the difficulties of working with abnormals – where the experimental method has limited application and where the psycholinguist is, for the most part, faced with the time-consuming and laborious task of minute analysis of utterances.

Their warning was well taken: The topic did not occur again in the reviews for the next 40 years. Bates et al. (2001, p. 390) concluded their review with a note critical of the past, but hopeful for the future of psycholinguistics:

- The dominance of English in twentieth-century psycholinguistics was a historical accident, more sociopolitical than scientific. However, it has had particularly unfortunate consequences for those fields that try to study the universal psychological and neural underpinnings of language. Psycholinguistics has finally broken away from the hegemony of English, and the field is better for it.

Paradoxically, Bates et al. cited not a single non-English reference, although research regarding languages such as Russian, Kiswahili, Chinese, Italian, and Dutch was indeed referenced in English-language reports. In other words, Bates et al. indulged a second type of Anglophilia: They actually included many references to research on languages other than English, but they failed to include among their references research published in languages other than English.

A Brief Recapitulation from Central Europe

There exists also a review of “German Psycholinguistics: 1967–1977” by Hörmann (1978) that concluded with a warning about linguistics that should have been important also for American psycholinguists during those years:

- In Germany psycholinguistics has become a general psychology of language. Amid all the minute subtleties to which linguistics has directed our attention, we must not lose sight of what Bühler [1934] showed us more than 40 years ago: that man is a creature who acts purposively in his world and uses language as a tool to achieve his aims. (p. 148)

Hörmann’s movement toward a general psychology of language use was far in advance of the American

scene and was, in fact, redolent of the inclusive coverage of the general psychology or *Allgemeine Psychologie* of the nineteenth century. Meanwhile, his emphasis on the goal-oriented, purposive nature of language use was still being thoroughly neglected in most Anglo-American psycholinguistics of the era. The processing of the linguistic structure of isolated, asocial, monological sentences (e.g., the trivial *John hit Mary* and the pseudo-ambiguous *They are flying planes*) was the focus of research; at the same time, ordinary conversation was being categorized as essentially defective.

Cognitive Psychology as Umbrella for Psycholinguistics

But there was, from the very beginnings of psycholinguistics, still another general formulation, adverted to above in connection with Chomsky's (1968, p. 84) argument that linguistics is a subdiscipline of *cognitive* psychology. J. S. Bruner and G. A. Miller incorporated the formulation into the Harvard Center for Cognitive Studies when they founded it in 1960, and Blumenthal (1970, p. 241) adopted the concept of "psycholinguistics, an area within the broader scope of cognitive psychology." This conviction has accompanied psychology through the second half of the twentieth century in various guises and still serves as a banner for psycholinguistics in the twenty-first century (e.g., Cutler 2005; Trueswell and Tanenhaus 2005a; Altmann 2006; Caron 2008).

However, cognitive psychology has a history of its own that must be taken into account. Moore's (1939) original textbook *Cognitive psychology* used the concept in contrast to his *Dynamic psychology* (Moore 1924); it was clear to Moore that cognitive and affective considerations were equally important in psychology, a conviction that was soon to be forgotten. Neisser's (1967) classical textbook *Cognitive psychology* then failed even to advert to Moore. This omission was the beginning of much obfuscation as to the definition of cognition. What Neisser succeeded in doing was to chronicle the zeitgeist. From the very beginning, his use of the term cognition was open-ended, as his own developing conceptualizations of cognition through the years eloquently show: the cognitive to the exclusion of the dynamic (Neisser 1967), processes and activities of acquiring and using information (Neisser 1975), inclusive of consciousness (Neisser 1976), and inclusive of ecological validity (Neisser 1985). Many others (see

O'Connell 1988a, p. 42 f., for further details) joined the "cognitivism" (Sampson 1981, p. 730) charade to the point where everything is now cognitive, and cognition has become a shibboleth with no meaning of its own.

The cognitive revolution in psychology (Baars 1986), it was alleged, changed everything. But the concept of cognition had already become so vague as to refer accurately only to "a system of processes for the manipulation of information" (Hunt 1982, p. 33). And in the meantime, it has been erected into the all-embracing edifice of cognitivism:

- Cognitivism is both more and less than the study of cognition. It is *more* in that it covers not only topics such as knowledge, reasoning, and memory, but extends to most of the rest of psychology and cultural life, including social relationships and child development, and topics such as psychopathology and the emotions. That extension, beyond the more straightforwardly 'cognitive', is accomplished by treating knowledge-based processes (or even a particular, information processing version of them) as primary, the foundation of all the rest. (Edwards 1997, p. 27)

Further relevance of cognitivism in psycholinguistics is to be found in the subsumption of psycholinguistics under the umbrella of cognition. Textbooks in cognitive psychology published in the second half of the twentieth century always contained a number of mandatory chapters on language. This is still the case in the twenty-first century:

- It is quite clear that psycholinguistics is still being considered a part of cognitive psychology in the most recent textbooks (e.g., Anderson 2001; Best 1999; Reed 2000; Reisberg 2001). In none of these texts is there any mention of conversation or dialogue. (O'Connell and Kowal 2003, p. 196)

A European Psychology of Language Use

The preceding depictions are good examples of a notable neglect, not only of psychologists, but of an entire continent of psychologists – European psychologists of language use. Given the fact that virtually *all* of the nineteenth century pioneers in the psychology of language use were European, this is nothing short of astounding. And it certainly is not

in accord with the facts, i.e., with the existence of European psycholinguists' contributions written in the English language. Hörmann's (1978) review of "German Psycholinguistics: 1967–1977" alone, despite his very narrow definition of psycholinguistics, listed 109 references, most of which were contributions to German psycholinguistics within a single decade.

One of the first European critics of modern psycholinguistics to emerge was the Norwegian social psychologist Ragnar Rommetveit. As early as the mid-1960s, mimeographed copies of his criticisms of American psycholinguists were circulating in the Harvard Center for Cognitive Studies. His early publications in English (Rommetveit 1972, 1974, and 1979) all challenged the psychological relevance of deep structure of sentences and proposed message structure in its stead. Later, he referred to "the fragile empirical foundation of mainstream psycholinguistic models of language use" (Rommetveit 1988, p. xi). As social psychologist, his principal emphasis has been on "intersubjectivity, in which there exists a partial complementarity, temporary reciprocity, and above all a shared consciousness among interlocutors" (O'Connell and Kowal 2003, p. 203). This emphasis echoes the words of Lazarus (1879/1986, p. 42; our translation) that conversation is "a joint action of minds. . . : The thought does not originate in me or you alone, but in both of us" (see also Clark 1996b, p. 3). Obviously, Rommetveit's emphasis was at odds with mainstream psycholinguistics from the beginning, and Fillenbaum (1971, p. 276), in his critique of "the view of language... focal in recent research," had already referred to some of Rommetveit's early objections.

Rommetveit's more recent insistence that morality must be factored into any adequate theory of language use is even more at odds with mainstream psycholinguistics:

- Morality is an intrinsic feature of any dialogue. It is in and through dialogue that man constitutes himself as a moral agent, . . . morality is a multidimensional and multilayered phenomenon. It ranges from premoral and proto-moral forms to explicit moralization, from authentic expression to tactful respect for integrity, from embodied feeling of a social-interactional origin to socioculturally sedimented norms and values oriented to in human dialogue and interaction. Morality remains

both a prerequisite and a product of the engagement in dialogue. (Linell and Rommetveit 1998, p. 472)

This statement was the conclusion of a special issue of *Research on Language and Social Interaction* on "the relation of social interaction and morality" (Bergmann 1998, p. 279).

Hörmann (e.g., Hörmann 1978, p. 136) also began to write in English during the 1970s, referring to the theory of "Generative Linguistics" as "in itself rather a-psychological" and moving to higher ground in the following summary:

- One of the main tenets of orthodox generative-transformational grammar – that semantics is only a secondary, 'interpretative' determinant – has never been accepted in German psycholinguistics. Accordingly, language has been viewed. . . as continuation of (non-verbal) human action by a different and highly specific means, rather than as a self-contained system. One of the topics of a comprehensive psychology of language is therefore the investigation of the goal-directed dynamics of a verbal utterance. These dynamics depend heavily on the situative context of the utterance. (p. 143)

Such a statement, made as early as 1978, was extraordinarily bold and deliberately agonistic. Although Hörmann had spent a number of months as a visiting scholar at Massachusetts Institute of Technology in 1968, it seems clear that he had not been heard. Many years later, his final statements were published posthumously (Hörmann 1986, p. 268):

- Under the influence of information theory and of what was appearing with great acclaim as semiotics. . . , the process of understanding was for a long time viewed as one of decoding. It was viewed as a kind of retranslation of the language signs into the thoughts which contain this same information. Then understanding would indeed be a linguistically determined process, because it would move exclusively in the area of the language code. Now we see that understanding is a creative, constructive act that always goes beyond the information coded in the utterance itself.

In addition to intersubjectivity, morality, and creativity, at least two more elements of a psychology of language use – *dialogism* and *perspective* – have been thoroughly neglected in mainstream psycholinguistics

and are to be credited to European psychologists of language use. Both these concepts have been presented not as adjuncts or supplements to mainstream psycholinguistics, but as radical departures from its basic stance. Our own engagement of them has been of more recent date (for a summary, see O'Connell and Kowal 2008).

Linell's (1982) early insistence on the primacy of the spoken was evident in his title *The written language bias in linguistics*. Much of his research from that point on had to do with *dialogism*. In 1988, the Bad Homburg Study Group on "The Dynamics of Dialogue" was formed; the group sponsored as many as 12 seminars between 1988 and 1993. Linell (1998, p. xvi) has expressed his dependence upon and gratitude to its members: "Jörg Bergmann, Rob Farr, Klaus Foppa, Carl Graumann, Thomas Luckmann, Ivana Marková, and Ragnar Rommetveit." It was from these meetings that his clearest expression of dialogism evolved (p. xii f.):

- ▶ Thus, the paradigm of dialogism must be understood in contrast to something else, namely 'monologism'. The latter is the dominant theoretical framework in the language sciences. The term alludes to the tendency to identify the speaker alone as the origin of the utterance. Basically, such a framework adopts some version or other of the following theories; cognition as individually-based information processing, communication as information transfer, and language as a code. This is coupled with a long-standing tradition in the language sciences in general, and in linguistics in particular, to give priority to theories and methods that suit written language and text better than they do spoken interaction.

Graumann (1990, p. 14) started from the importance of taking another person's *perspective*: "The capacity to take another person's perspectives may be considered the elementary communicative competence." But behind the ability to *take* someone else's perspective is the even more fundamental necessity to *have* one's own perspective:

- ▶ Each thought or utterance views aspects of the world from some particular vantage-point, thus telling us (as recipients or analysts) something not only about the things talked about but also about the actor's background. (Linell 1998, p. 48)

As we have noted already above, one's personal perspective dictates what one means and what one's interlocutors understand, and extends to one's values and ideals: "Morality is an intrinsic feature of any dialogue" (Linell and Rommetveit 1998, p. 472).

More than any other group – especially after the untimely death of Hörmann in 1983 – the Bad Homburg Study Group symbolizes opposition to mainstream psycholinguistics and an engagement of spontaneous spoken discourse on the part of European psycholinguists. Not least in importance is the Bad Homburg Study Group's rejection of cognitivism as the theoretical umbrella for psycholinguistics and the relocation thereof to social psychology.

Another European psychologist who over the years has devoted a good part of his research to language use from the viewpoint of *Allgemeine Psychologie* has been Theo Herrmann. In our introduction to this chapter, we have referred to his (Herrmann 2006) discussion of the various perspectives taken by psychologists on the study of language use. Herrmann (2005) has repeatedly expressed his discontent with the state of the art in the psychology of language use and, more specifically, with its reductionistic approach to methodology:

- ▶ The psychology of language use as well as psycholinguistics are currently incapable, by reason of their methodology, of engaging research on many important and central aspects of basic problems of language use.
- ▶ Under these circumstances, the psychology regarding language use and psycholinguistics must necessarily neglect the problems for the time being, unless their canon of methodologies be broadened, tolerance with regard to other methods be expanded, and the requisite interdisciplinary cooperation be intensified or set in motion altogether from scratch. (p. 15; our translation)

He has found a broader approach to language use within some subdisciplines of psychology (e.g., social psychology), but also in ethnology and cultural anthropology. Nonetheless, he has concluded:

- ▶ *Mainstream psychology of language use* only seldom gets beyond research on the mental or neural processes involved in the production and reception of individual sentences. (p. 78; our translation)

Among those who have broken away from these limitations, Herrmann mentions Clark (1996b) and Hörmann (1976).

A Comparison: Modern Psycholinguistics in Field (2003) Versus Bates (1989)

Perhaps the question may arise as to whether our characterizations of mainstream psycholinguistics are sufficiently current. In fact, we have relied on the most recent summary presentations of psycholinguistics at our disposal (e.g., Cutler 2005; Trueswell and Tanenhaus 2005a; Brown 2006; Traxler and Gernsbacher 2006; Gaskell 2007; Harley 2008). We wish to add a brief analysis of one of the more recent textbooks in the tradition of mainstream psycholinguistics. Field's (2003, p. 2) *Psycholinguistics: A source book for students* was clearly intended as a handbook of the discipline for the beginner. By all criteria, it is mainstream:

- Psycholinguistics explores the relationship between the human mind and language. It treats the language user as an individual rather than a representative of a society – but an individual whose linguistic performance is determined by the strengths and limitations of the mental apparatus which we all share.

In other words, the asocial, monologistic, rule-governed behavior of the individual is to be studied. There is no mention of conversation or dialogue throughout the book. Of the references, 98% (191/195) were published since 1960, and none of the many precursors of a modern psychology of language use, none of the Bad Homburg Study Group, and none of the other prominent European contributors mentioned above are included therein. His examples are characteristically either artificial settings or at best monologistic (see, e.g., p. 208 ff.).

Contemporarily with the publication of Field's (2003) book, Elizabeth Bates, a psycholinguist of great renown, died at the early age of 56. Almost two decades ago, she had sized up mainstream psycholinguistics, but not unlike Hans Hörmann before her, did not live to reap the fruit of her research. Bates (1989) published her review of the state of the art in psycholinguistics in Italian and for the Italian journal *Sistemi Intelligenti*. In stark contrast to Field, she pointed out already at that early date the basic flaws of mainstream psycholinguistics.

First of all, she thought of herself as a psycholinguist with specialties in child language development and aphasiology. But she was convinced that, by 1989, psycholinguistics had already disappeared as a coherent and identifiable discipline. It is to her credit that she recognized the importance of Fodor et al.'s (1974) formulation: "The goal of generative linguistics was an account of linguistic competence," whereas "the goal of psycholinguistics ought to be a characterization of performance, i.e., the linguistic behavior (overt and covert) by real human beings" (Bates 1989, p. 308; her own translation). As for Fillmore's (1968) generative semantics, Bates (1989, p. 310; her own translation) described "an embarrassing year or so in which his case grammar had followers in psycholinguistics (especially child language), but no followers at all within linguistics proper (including Fillmore himself)." By then, the separation between psychology and linguistics "seemed to be complete." In their more recent review, Bates et al. (2001, p. 390) have pinpointed an important historical footnote on the Anglo-centrism of modern psycholinguistics:

- The dominance of English in twentieth-century psycholinguistics was a historical accident, more socio-political than scientific. However, it has had particularly unfortunate consequences for those fields that try to study the universal psychological and neural underpinnings of language. Psycholinguistics has finally broken away from the hegemony of English, and the field is better for it.

H. H. Clark's Shift from Monologism to Dialogism

We have repeatedly described mainstream psycholinguistics as monologically oriented from the very beginning. But nature does indeed abhor a vacuum. Within psycholinguistics, the research of H. H. Clark gradually shifted from monologism to dialogism. More than a decade ago, Garrod (1999) reviewed this tradition of research. Historically, Clark and Clark's (1977) very popular textbook was thoroughly embedded within mainstream psycholinguistics. Evidence of this has already been adverted to: Of the canon of six references characteristic of psycholinguistic textbooks (see O'Connell 1988b, p. 347), all six were cited in Clark and Clark. By way of contrast, in H. H. Clark's (1996b)

Using language, none of them were cited, and the very concept of psycholinguistics was deliberately played down (see O'Connell and Kowal 1997, p. 854 f.). However, citations of ethnomethodologists, sociolinguists, conversation analysts, and other *non-psychologist* researchers with a generally sociological background, "including Goffman, Goodwin, Greatbatch, Heritage, Hymes, Jefferson, Levinson, Pomerantz, Sacks, and Schegloff" (O'Connell and Kowal 2003, p. 205) were abundant in Clark (1996b). None of these had been cited in the Clark and Clark (1977) book, although works of at least Goffman, Hymes, Jefferson, Sacks, and Schegloff were already available. A comparison of all of the references in Clark (1996b) showed that 95% (356/376) of them do not overlap with the references in a psycholinguistics textbook by Forrester (1996) published the same year. Already by 1985, Clark had pointed out, in his contribution to the *Handbook of social psychology*, psycholinguists' "lack of interest in social processes" and had emphasized his own conviction that "language is a social process" (Clark 1985, p. 179). By the time of Clark (1996b, p. 3), his conviction had become quite explicit: "Language use is really a form of *joint action*." Accordingly, *Using language* contains many transcripts of conversations: "A book about language use wouldn't be comprehensible without examples of spontaneous speech, so I have appealed to authentic examples wherever I could" (p. x). But his engagement of spontaneous spoken dialogue was accomplished only at the cost of isolating himself – both theoretically and methodologically – from mainstream psycholinguistics as traditionally understood. Even so, he still clung to the vestigial notions of lawlessness in conversation; it remained for him "purposive, but unplanned" (Clark 1996a, p. 294).

Back to the Future

In the motion picture *Back to the future* (Zemeckis 1985), a mad scientist takes a young man back in time in order to influence his future. In recent years, an analogous phenomenon has been developing in the history of psycholinguistics and more generally in the history of a psychology of language use. What might have been becomes abundantly clear from a revisionist version of history based on an array of mostly German-language sources from the late nineteenth and early twentieth centuries. The reason for this late emergence

of sources is no mystery. In the late nineteenth century, the German language was the premier language of science. Through the influence of the First and Second World Wars and the emergence of English as the lingua franca of the scientific world at large, German sources have become increasingly difficult to access. The vast majority of American psychologists are unable to deal with the German language. And translations of German-language materials emerged either very late or not at all. For example, Moritz Lazarus's (1879/1986) *Über Gespräche* and Mauthner's *Beiträge zu einer Kritik der Sprache dritter Band: Zur Grammatik und Logik* (1923/1999) have still not been translated; Philip Wegener's (1885) *Untersuchungen über die Grundfragen des Sprachlebens* appeared only 86 years later in English translation (Trans. Abse 1971) as *The life of speech*; and Bühler's (1934/1982) *Sprachtheorie* was translated into English only 56 years later (Trans. Goodwin, 1990) as *Theory of language: The representational function of language*.

The overall thrust of these and other neglected sources can be summed up as radically antithetic to modern mainstream psycholinguistics as it evolved in the second half of the twentieth century. The emphasis across the board in all these early, pre-psycholinguistic sources was neither *written* language use nor the *grammatical structure* thereof. Their interest was instead extended to everyday oral language use, dialogue, and field observation. It is no exaggeration to say that, had their wisdom been heeded historically, mainstream psycholinguistics could not have seen the light of day.

More specifically, to Lazarus (1879/1986, p. 5; our translation) goes the credit of being one of the earliest to insist on the investigation of "actual, everyday, hour-by-hour conversations of ordinary people." Not long afterward, Wegener (1885) moved radically away from classical philology toward a genuinely psychological approach to language use, a method that engaged naturalistic observation of spoken dialogical usage of the mother tongue. He also insisted on the temporal and logical priority of a form of occasional speech that was later to be designated *empractical speech* by Bühler (1934/1982). Wegener's insistence upon the relevance of the situation was also taken up by his successors, not least of all by Malinowski (1923, p. 465 ff.), with his emphasis on the "*context of situation*." Knobloch (1991, p. xxxviii*) has well delineated the entire movement in

characterizing the mentalist stance of Wegener himself: “For Wegener language is situated within a world of purposeful social action.”

A Return to Dialogue in the Twenty-First Century

In 2001, MacWhinney published an overview on psycholinguistics in which he stated its purpose as follows:

- This article will examine research in six core areas of psycholinguistics: spoken word recognition, sentence comprehension, sentence production, message construction, memory limitations, and cross-linguistic comparisons. In addition to these core areas, psycholinguists are involved in the study of reading, conversational interaction, figurative language, text comprehension, aphasia, child language disorders, gesture, prosody, neurolinguistic imaging, animal communication, and language evolution. However, our analysis here will focus on these six core areas. (MacWhinney 2001, p. 12344)

MacWhinney’s selection of “core issues” (p. 12348) is relevant in the present context for two reasons: It makes explicit how strongly modern psycholinguistics is still bound to its historical beginnings in the mid-1950s, and, at the same time, it makes room for “conversational interaction,” although not as a core issue. MacWhinney’s own justification for the selection of the core areas is as follows: “These areas are central to the study of psycholinguistics, because they allow us to evaluate the psychological reality of linguistic formalisms” (p. 12348). This argument is surprisingly similar to a division of labor between linguistics and psychology expressed by Ervin-Tripp and Slobin (1966, p. 436) in their review of psycholinguistics from 1959 to 1965:

- To psychologists remains the challenge of finding the processes by which the competence described by linguists is acquired by children and is reflected in performance under a variety of conditions.

And Hörmann (1967) had entitled one of the chapters in his book *Psychologie der Sprache* (*Psychology of language*) more than 40 years ago “The psychological reality of grammar” (p. 246; our translation).

It should be duly noted that MacWhinney concluded his review as follows: “A satisfactory resolution of the core issue of the psychological reality of linguistic structures has not yet been obtained” (p. 12348 f.).

It should also be noted, however, that some time ago, Kurcz (1996, p. 18) had already acknowledged that an approach such as MacWhinney has portrayed was already passé:

- The idea of studying the psychological reality of any theory has come into question (Chomsky himself has rejected the validity of the conception of psychological reality, as it was used by experimental psycholinguists, cf. Rieber, 1983)

In any event, MacWhinney’s core issues have been presented by him as viable for the twenty-first century. The several review articles (Clifton and Duffy 2001; Gernsbacher and Kaschak 2003; and Diehl et al. 2004), which have appeared in the *Annual Review of Psychology* pertaining to these core issues, confirm such an interest throughout the first decade of the century. It would appear that some American and British psycholinguists are still very much committed to these core issues, insofar as they fail to engage genuine dialogical spoken language use and still substitute controlled experimentation for field observational studies.

In the following, we wish to summarize some recent developments in psycholinguistics all of which emphasize the importance of dialogue as both a significant as well as neglected topic in psycholinguistic research – developments which at the same time rely on the work of H. H. Clark and his colleagues.

Pickering and Garrod (2004), two of the leading psycholinguistic researchers on dialogue, have introduced their account of “a mechanistic psychology of dialogue” as follows:

- The most natural and basic form of language use is dialogue: Every language user, including young children and illiterate adults, can hold a conversation, whereas reading, writing, preparing speeches and even listening to speeches are far from universal skills. Therefore, a central goal of psycholinguistics should be to provide an account of the basic processing mechanisms that are employed during natural dialogue. (p. 169)

In view of the fact that currently “there is no such account” (p. 169), they have added:

- So far as most psycholinguists have thought about dialogue, they have tended to assume that the results of experiments on monologue can be applied to the

understanding of dialogue, and that it is more profitable to study monologue because it is “cleaner” and less complex than dialogue. Indeed, they have commonly assumed that dialogue simply involves chunks of monologue stuck together. (p. 170)

Pickering and Garrod’s mechanistic account is based on the assumption that “in dialogue, production and comprehension become tightly coupled in a way that leads to the automatic alignment of linguistic representations at many levels” (p. 170), and they have carefully distinguished automatic alignment through basic cognitive processes from the strategic alignment that they interpret to be Clark’s (1996b) approach. However, by 2007, Garrod and Pickering (Garrod and Pickering 2007) had added strategic to automatic mechanisms in their account of alignment: “Just like other complex cognitive processes, alignment in dialogue involves both automatic and strategic components” (p. 443). They have also insisted that research on the relative impact of both components is “a major goal for future research in dialogue” (p. 449). More generally, they contended that language is used by interlocutors to “align their mental states, so that they come to have the same ideas about the topic under discussion.” Finally, Costa et al. (2008) have pointed out the need for dialogical research in view of their speculation that “our cognitive machinery is better designed for dialogue than for processing language in an isolated context” (p. 528). But unlike Costa et al. (p. 529), who concentrated on “successful” dialogue, Clark (2004, p. 365) emphasized “the SPONTANEOUS, INTERACTIVE LANGUAGE of cafés, classrooms, and offices.”

The research of Garrod and Pickering and their colleagues has elicited a lively discussion about dialogue within psycholinguistics and beyond. However, whether or not their concepts of “mechanistic account” and “successful” dialogue will remain theoretically viable is still an open question. Moreover, it would seem that the finality of any dialogical engagement is precisely whatever interlocutors decide for it to be; otherwise, it ceases to be informed by the interlocutors’ intentions. In addition, ascertaining “the same ideas about the topic under discussion” on the part of interlocutors seems to be empirically impossible. In the face of the truly radical dialogism of Linell (2009, p. 35), such latter-day traditions within psycholinguistics itself

still appear to be too closely related to a monological system wherein “the situated meanings of utterances are determined by the individual speakers.”

Another ambitious proposal to bridge the polarities within modern psycholinguistics has been made by Trueswell and Tanenhaus (2005b, p. xv):

- A confluence of methodological and theoretical developments in psycholinguistics, linguistics, and computational linguistics, all related to the goal of providing mechanistic accounts of language use within rich referential environments, suggest[s] that the time is ripe to bridge the product and action traditions.

Trueswell and Tanenhaus (p. xi) refer the traditions of “language-as-product” and “language-as-action” back to Clark’s (1992) *Arenas of language use*:

- The product tradition, which has dominated psycholinguistics, has its roots in George Miller’s (1962) synthesis of the then-emerging information-processing approach to cognition with Chomsky’s (1957, 1959) revolutionary approach to linguistic knowledge as a cognitive system of rules and representations. Clark labeled this the language-as-product tradition because it focuses on the cognitive processes by which listeners recover, and speakers create, linguistic representations – the “product” of comprehension.
- The second tradition sketched by Clark, the language-as-action tradition, has its roots in work by the Oxford philosophers of language use (e.g., Austin 1962, Grice 1957, and Searle 1969), and work on conversational analysis (e.g., Schegloff and Sachs 1973)... This approach focuses on how people use language to perform acts in conversation, arguably the most basic form of language use.

How can one reconcile these “mechanistic accounts of language use” after all these years of conflict between “the product and action traditions” (p. xv)? The title of their first chapter (Tanenhaus and Trueswell 2005, p. 3) has specified the remedy: “Eye Movements as a Tool for Bridging the Language-as-Product and Language-as-Action Traditions,” and Tanenhaus and Trueswell have further specified that it is this single available response measure that is presently to be the key to reconciliation of the two traditions: “A response measure bridging the

action and product traditions” (p. 8); and they have added that “other methods will emerge” (p. 31).

The logical difficulty with this is that the conflicts between the two traditions are only superficially conceptualized as *product* and *action*. It seems difficult to conceptualize the differences between the two traditions as only – or even primarily – methodological. In fact, some representatives of the action tradition (e.g., H. H. Clark himself) would balk at the requirement of “mechanistic accounts” of language use. Nonetheless, Tanenhaus and Trueswell’s prediction is gratifying in the following respect:

- The most ground-breaking work will come from those using increasingly rich (and complex) data arrays to understand the dynamics of comprehension and production in conversation. (p. 31)

We have already found implausible the claim that a bridge is readily available. More important, however, is the historical picture painted by these brief excerpts. They are without doubt oversimplifications, but, nonetheless, they throw light on the development of psycholinguistics over the years. The sketch provided for language-as-product seems quite adequate (but see Bates 1989 on the foundational importance of Osgood’s mediation theory); George A. Miller was undoubtedly the most important researcher within the discipline of psychology to engage the new psycholinguistics, and Noam Chomsky’s influence was nothing less than charismatic, even though the distance between himself and Skinner was not as great as he made it out to be: “Chomskyan mentalism is not incompatible with a behaviorism that builds upon internal mediating variables” (Linell 1998, p. 58). The sketch provided for language-as-action, however, seems less straightforward. The salient thing one may note in it is that there is no mention of psychologists, but only of philosophers and sociologists, a description quite in accord with Clark’s (1992, p. xii f.) own depiction.

In a somewhat different way, a (re)turn to dialogue is to be noted in Harley’s (2008) third edition of his textbook *The psychology of language: From data to theory*. He has added an entirely new chapter entitled “How Do We Use Language” (p. 453), wherein he recommends Clark’s (1996b) book as “a classic work on using language” (p. 453). However, a noteworthy distinction is presented in some introductory remarks,

wherein he sets the understanding of a comprehender and the production of a speaker *apart from* language use:

- Much of what we have been concerned with so far is either how a comprehender understands language, or how a speaker produces language. But usually we use language in a social setting: we engage in dialog. . .
- This chapter is about how we use language. (p. 453)

Evidently, *language use* in the production and understanding of language is understood by Harley as other than *language use* in dialogical interaction – quite in accord with the monological tradition of mainstream psycholinguistics.

The recent emphasis on dialogue has also been paralleled by a plea on the part of some researchers for recognition of the importance of affective as well as cognitive processes in language use. Accordingly, Schober (2006, p. 569) has pleaded:

- Note that studies of affective processes involved in dialogue have largely been left to social psychologists. . . But cognitive and affective processes no doubt interact in important ways, and ought to be part of a full psychological theory of language use.

A radically dialogistic contribution to the literature on dialogue from outside psycholinguistics is clearly to be found in a major work published recently by Linell (2009) under the title *Rethinking language, mind, and world dialogically: Interactional and contextual theories of human sense-making*. Dialogism for Linell (p. 400) is

- a family of somewhat loosely linked theories and traditions across many disciplines. In some ways, we would claim that dialogism, by its very nature, is interdisciplinary, because most, if not all, established disciplines have been dominated by non-dialogist (‘monologist’) traditions.

Among these monologic traditions, mainstream modern psycholinguistics surely holds the first place for Linell, and, accordingly, he has disavowed any affiliation with it. Linell (p. 3) has also pointed out that the limitation of dialogue to “one-on-one language use with a partner” (Schober 2006, p. 564) relies on a false etymology and does not accurately reflect the new dialogism.

Linell’s book is primarily dedicated to the historical and philosophical – both ontological and epistemological –

background of dialogism. There is considerable discussion of methodology, though primarily in an abstract rather than an empirical mode. And whereas his previous work might be characterized as negative in the sense that it was a critique of *The written language bias in linguistics* (2005), the more recent book is a quite positive engagement of dialogism, including even an application of dialogism to the written. The import of dialogism is then that

- a human being, a person, is interdependent with others' experiences, actions, thoughts and utterances; a person is not an autonomous individual who can decide everything for him- or herself, as monologism tends to assume. (Linell 2009, p. 11)

Hence, for Linell, "dialogism" is a countertheory to dominant theories in psychology, social science, linguistics and elsewhere" (p. xxviii). It "requires interdisciplinary work, rather than mono-disciplinary compartmentalization" (p. 433). Whether there is currently present within the social sciences a strong enough impetus to carry forward such a radically uncompromising dialogism remains to be seen. Note, however, that Linell makes numerous references to the work of Clark and his colleagues, refers to their approach as "interactionist social psychology," and counts it among the research traditions which "have provided important empirical evidence for the fruitfulness of a dialogical approach" (p. 399).

It would surely be a mistake to neglect Bakhtin's (e.g., Bakhtin 1981) influence on Linell and others. For example, Morson (2006, p. 561) has emphasized Bakhtin's insistence on the fact that language use is dialogical and that the utterance rather than the sentence is the unit of language use:

- Language is a matter of people speaking to each other on specific occasions for specific purposes, and many features of language will be overlooked if one focuses on the sentence.

Future Directions

After all the vagaries of mainstream modern psycholinguistics throughout the first six decades have been duly recorded and pondered, we wish to formulate for our readers some basic principles for future research: (1) The designation *psycholinguistics* should be restricted to "linguistic performance as a component of human

cognition" (Dietrich 2002, p. 7; our translation); by contrast, a legitimate *psychology of language use* should take into account intersubjectivity, morality, creativity, dialogism, and perspective as essential components of human discourse (Linell 2009, *passim*). (2) Such a psychology of language use, as a subdiscipline of social psychology, should be open to other social-scientific disciplines (e.g., sociolinguistics and conversation analysis, anthropological linguistics, and ethnolinguistics) and to their emphases on social role and culture (Graumann 2006, p. 62). (3) The *written language bias* (Linell 1982; 2005) must be avoided, and spoken discourse must be given consideration in proportion to its salient use. (4) In addition to the use of controlled experimentation and inferential statistics, the importance of field observation, description, and qualitative methods should be acknowledged, much as the Conversation Analytic tradition has insisted all along. (5) The Anglophilic bias must go; corpora from other languages and researchers from other cultures and languages must be taken into account (see Bates et al. 2001, p. 390; Anderson 2006, p. 274).

What did happen historically to psycholinguistics? In short, a tiny corner of formal language structure was emphasized to the exclusion of a vast universe of language use. The vehicle for this dynamic was a mechanistic cognitive view – frighteningly like behaviorism, despite all the protests and breast thumping contrition of the new mentalists to the contrary. Paradoxically, psycholinguistics mimicked the natural sciences in its meticulously quantitative and reductionistic approach to the processing of language structure, even while at the same time following the largely nonempirical epistemology and nativistic speculations of the generativist linguists down the primrose path to triviality. Small wonder that meaning still remains "a core unsolved problem of cognitive science" (Fitch 2005, p. 395). There are ways of getting at the problem of meaning, and a legitimate psychology of language use must now embrace them.

In its original format, this presentation was to have served as a complement to the historical views of Blumenthal (1970, 1985). And his reflections do encourage our own:

- Whatever the future course of relations between psychology and linguistics it should be a more intelligent

one if we pay attention to what has happened in the past. (Blumenthal 1985, p. 111)

And we may now return to Slama-Cazacu's (1980, p. 93) question, "Should and can psycholinguistics contribute to the improvement of human communication?" The answer must be: Only if there is a radical movement in the direction of dialogue. Such a change in direction is in fact the fulfillment of Lazarus's (1879/1986, p. 19; our translation) plea 130 years ago for the integration into psychology of "a future study of the lawfulness of conversation." Such a vision, however, demands a genuine psychology of language use, not mainstream psycholinguistics.

Our penultimate citation is from a linguist rather than from a psychologist, Otto Jespersen. He anticipated a great deal of the conflict between those who would engage only the abstract system of language and those who would engage the actual use of language on the part of interlocutors. The battle has endured from the very beginnings of psycholinguistics to the present day and bids well to continue on through the twenty-first century unabated. Indeed, it could be discerned in the opposition experienced by Lazarus as early as 1879, when he argued that conversation was the primary linguistic activity of mankind and should accordingly be salient in any psychological consideration of human language:

- The essence of language is human activity – activity on the part of one individual to make himself understood by another, and activity on the part of that other to understand what was in the mind of the first. . . . But in former times this was often overlooked, and words and forms were often treated as if they were things or natural objects with an existence of their own. (Jespersen 1917, p. 17)

In the light of history, it is small wonder that Theo Herrmann (2006, p. 420; our translation) exclaimed: "The current situation of the psychology of language use – at least in the domain of the German-speaking scientific community – must be judged to be thoroughly unsatisfactory." Yes, and elsewhere too! But we must never forget that the writing of history is an act of hope: Understanding the "thoroughly unsatisfactory" is the very best spur to remediation.

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Psychological Theory of John Bulwer

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John Bulwer (1606–1656) was a London physician best known for his writings on gesture, the semiotics of the body, and speech for the deaf. However, his psychological theory has received almost no attention from historians, and the fact that Bulwer was the most important British contributor to the psychology of motor action, physical expression, and nonverbal communication in the period between [William Harvey \(ca. 1627\)](#) and [Thomas Willis \(1664\)](#) has gone largely unrecognized.

John Bulwer was the first surviving child and only son of Thomas Bulwer, a London physician. As an apprentice apothecary, the elder Bulwer worked under a leading light of London's medical profession – Roger Gwyn, apothecary to both St. Bartholomew's and St. Thomas's Hospitals from 1587 to 1614. Since the great majority of topographical references connected with the life of John Bulwer, including the parish of his birth, are located close to St. Bartholomew's in the northwest corner of the City of London, it may be conjectured that his father had worked with Gwyn there. Thomas Bulwer became a full member of the Grocers Company, which then still included the apothecaries, in 1599.

On July 1, 1600, Thomas Bulwer married Mary Collet, and on March 27, 1603, they christened a son, Peter; but both mother and son died that year, probably

from the plague that killed an estimated 30,000 Londoners. On May 26, 1604, Thomas married Marie Evans of St. Albans, daughter of George Evans of that city, probably an apothecary, and on May 16, 1606, John Bulwer was christened in the church of St. Michael Wood Street, a parish situated on the north side of The Cheape, a major thoroughfare and center of goldsmiths and apothecaries in northwest London. Three younger sisters, Mary, Dorothy, and Alice, followed.

Thomas Bulwer was one of the 19 men who left the Grocers Company to form the Worshipful Society of Apothecaries in December 1617. The new guild was opposed by both the Grocers and the City of London, but it was under King James's protection and received his charter in 1618. Though in some respects still beholden to the College of Physicians, the apothecaries now could practice as physicians themselves. Thomas Bulwer was one of the more prominent of the London apothecaries, and he certainly treated patients. John Bulwer, in the dedication of *Pathomyotomia* (1649) to his father, refers to "Physick, wherein your experience hath crowned your Profession, having ever been *Fortunatus in Praxi*."

John Bulwer's parents moved to St. Albans in 1631 or 1632. By this time John was a physician himself, presumably having taken over his father's medical practice. It is noted in the 1634 Visitations of Hartfordshire (St. George 1886:35) that Thomas's son "John Buller" was by then married to "the widowe of – Middleton" (a woman who has not been further identified). Evidence suggests that by the mid-1630s, Bulwer had a prosperous and well-connected practice in the London liberties around Holborn, for many of his intellectual circle were law students at the Inns of Court during that decade, while others, also lawyers, were their fathers and uncles.

Bulwer's mother was buried August 23, 1638, in St. Albans Abbey.

Because of the disturbed conditions during the English Civil War, the Inns of Court were practically deserted from the summer of 1642 through the summer of 1646. This seems to fit with the fact that from the 1640s to 1653, Bulwer was not practicing medicine. From this decade (1644–1653) date all his publications, but in the colophon to his last, the second edition of *Anthropometamorphosis*, he bids farewell to the making

of books (unless he shall be fortunate enough to receive financial support), for he must, he says, return to the practice of medicine. Thomas Bulwer, in his will (1649), had noted that his son was not then in practice.

The genesis of Bulwer's main research project must fall somewhere within the years 1632–early 1640s. In his dedication to *Chirologia* (1644) he says that when he jotted down the basic idea of the project, the first person he shared it with was his “Intellectual Friende” Edward Goldsmith, of Gray’s Inn; and that Goldsmith had strongly encouraged him and had recommended the project to his friends. Francis Goldsmith, Edward’s nephew, who is known to have resided at Gray’s Inn between 1635 and 1642, himself wrote a laudatory poem for *Chirologia*, and in the same dedication, Bulwer tells Edward Goldsmith that “This book by *prescription* and *signiority* of acquaintance as by a *Prerogative*, and by a reciprocation of *love* for your affection to it, falls to your *Tuition*. I confesse some other of my digested thoughts struggled for precedencie . . . and the head would have had the priviledge of primogeniture. But it fell out. . . . *This is come out first.*” (This playful figure of speech hints that Bulwer was already studying the gestures of the face and head, part of which research would later emerge as *Pathomyotomia*.)

Most likely, it was around 1641 that Bulwer showed his prospectus to Goldsmith. Bulwer’s project is very likely his response to three factors: ongoing discussions of universal language stimulated by the visit to London (Sept. 1641–June 1642) of the great Moravian reformer Jan Amos Comenius; the publication in 1641 of John Wilkins’ *Mercury*, which touches on some related themes in its fourteenth chapter (Wilkins 1984:158–162); and the religious political crisis of the time. Although 1641 is suggested here as a starting point for Bulwer’s project, the exact date is less important than the ongoing historical context in which it was certainly embedded (Wollock 2011).

In 1648, John Bulwer published his next book *Philocophus*, dedicated to two deaf brothers, Sir Edward (b. 1620) and Mr. William (b. 1630) Gostwicke of Willington, Bedfordshire. As Bulwer explained in the dedication, he had been solicited on their behalf “by a worthy Friend of yours (who had observed you not onely to be affected but seemingly edified upon the sight of the Alphabets of my *Chirologia*

or naturall language of the hand which hee had presented you with) . . .” (Bulwer 1644a: unnumbered p.; Wollock 1996:4–5). From this it is clear that Bulwer’s *Philocophus*, and his idea for an academy of the deaf, originated only after he met the Gostwicks. *Chirologia* was published in 1644; *Philocophus* was in print by July 1648, at the latest.

The first month of 1649 ended with the parliamentary execution of King Charles I. In the spring of that fateful year, Bulwer published his *Pathomyotomia* with a dedication to his father. *Pathomyotomia* complements *Philocophus* by discussing the whole topic of animate motion and the connections between sensation, mental imaging, and bodily movement. This was the same year in which Descartes issued his last published work, on a related subject, *Les passions de l’ame* (Amsterdam 1649).

Pathomyotomia, subtitled “A dissection of the significative muscles of the affections of the minde,” was based on actual anatomies conducted by Bulwer. The only place this could have been done was what he had referred to in *Chironomia* (1644b:85) as “the new Ovall Theater, lately erected for the dissecting Anatomists in Barber-Surgeons Hall in London.” Located in the northwest corner of the city of London, a very short walk north and slightly west of Bulwer’s home parish of St. Michael Wood Street, it had been built in 1636 by Inigo Jones on the model of the anatomical theatre at Padua.

Thomas Bulwer died in 1649 and was buried on June 4 in St. Albans Abbey next to his wife. He left to his son his apothecary shop in St. Albans, which Bulwer later leased to the apothecary Charles Tirrell. At this time, Bulwer also inherited two tenements in St. Albans from his mother.

His father’s will had stipulated that in order to inherit the St. Albans properties, John must resume the practice of medicine. In the new London of the Commonwealth, it would have been difficult to pick up where he had left off without acquiring an M.D., and it is certain that he had obtained one by 1653, and certainly not in Great Britain. Around this time, Bulwer adopted a young girl (born probably c.1649) he identifies in his will as “Chirothea Johnson alias Bulwer.” Circumstantial evidence suggests that she may have been deaf (Wollock 1996:34–35).

For some time up to 1649, Bulwer had been searching for a copy of Juan Pablo Bonet's book, *Summary of the Letters and the Art of Teaching Speech to the Deaf* (Madrid 1620), and for the teacher whom Digby, in the excerpt from his *On Bodies* (1645), quoted and commented upon by Bulwer in his *Philocophus*, had referred to (Wollock 1996:23–27). It is clear from the manuscript *The Dumb Mans Academy* (unpublished, probably written in 1649, see Wollock 1996:16–18, 21–23), a fair copy almost ready to be set in type, that Bulwer had by then obtained a copy of Bonet's book, for it contains a paste-in of a plate from Bonet and translations from the text.

The year 1650 saw the first edition of *Anthropometamorphosis*, dedicated to Thomas Diconson. This includes a colophon listing the author's unpublished works. Two additional titles, *Glossiatrus: Tractatus de removendis loquelaie impedimentis* and *Otiatrus: Tractatus de removendis auditionis impedimentis*, are included in the updated list of "Works to Be Accomplished" printed with the second (1653) and subsequent editions of *Anthropometamorphosis* (Wollock 1996:31–32). This corresponds to the period in which Bulwer got his M.D. Their titles seem to form a pair, they are in Latin, and the subtitles sound exactly like typical titles of academic theses. Unfortunately both are lost. *Glossiatrus* was as far as is known, the first monograph on speech disorder ever written (Wollock 1996:18–19). Bulwer summarized his research on this topic in a paragraph in *The Dumb Mans Academie* (Wollock 1996:19).

Anthropometamorphosis is a compendium of alterations to the human body, sanctioned by custom and fashion, in all parts of the globe including England. Man's corrupt ingenuity had invented myriad modes of disfiguring what William Blake would later term "the human form divine," by way of dress, cosmetics, and mutilation. Like the other works this one is about the semiotics of the human body. It has been frequently described as a work about "monsters," but this extends the word *monster* in a way that Bulwer could not have intended. True, he speaks in the dedication of "National Monstrosities" (1653: unnumbered p.), but this should be understood in a figurative sense. Bulwer was a Baconian, and Bacon clearly differentiates *monsters* (in which nature "is forced out of her proper state by the perverseness and insubordination of matter and

violence of impediments"), from "things artificial," where nature is "constrained and molded by art and human ministry." (*Novum Organum*, book II, "Aphorisms on the Composition of the Primary History.") The subject of *Anthropometamorphosis* is man's *artificial self-deformation*. Here, as in all his books, the true source of the theme is Bacon's *De Augmentis* (specifically Book IV, Chap. 2, which immediately follows the one on expression as a link between soul and body), where Bacon writes censoriously on "cosmetica," or artificial adornment).

Bulwer glossed his topic medically as *de abusu partium*, a play on the title of a classic work of Galen (*De Usu Partium*) which discusses every part of the body in terms of its purpose or final cause. Since in his previous books, above all *Pathomyotomia*, Bulwer had examined the natural expressiveness of the parts, one may assume that his concern here is the *artificial interference* with that natural expressive intentionality or finality, brought about by mankind's false ideas of beauty. On April 17, 1654, Bulwer presented a signed copy of *Anthropometamorphosis* to the Bodleian Library, Oxford.

On July 15, 1656, Bulwer made his last will and testament at Westminster. He died in October 1656 and was buried at St. Giles-in-the Fields, Westminster on October 14. The church has been rebuilt since then and there is no longer any trace of his grave or record of an inscription.

Bulwer's Theories and Their Sources

Bulwer's books tend to be treated separately by different investigators in various specific disciplines; his thought has rarely been surveyed as a unified whole. Here the attempt will be made. Though somewhat differently conceived, the *Anthropometamorphosis* also belongs to this unity. For reasons of space it cannot be treated here, but the present discussion will supply a suitable groundwork for such a treatment.

Chirologia is a treatise on natural gesture; its companion work, *Chironomia*, presents a systematic application of gesture to rhetorical delivery. The material for both is drawn from classical, biblical, and other Christian literature. The introduction to *Chirologia* presents a "General Projection" of a grand design for the study of expression and gesture, of which these books are but the first two offerings. The whole idea had been

inspired by two discussions in Francis Bacon's *De Augmentis Scientiarum*, the 1623 expanded Latin version of *The Advancement of Learning* of 1605 – Book IV, Chap. 1, and Book VI, Chap. 1.

In IV.1, Bacon calls for a new investigation of the common bond of body and soul; how they are aware of each other and how they interact. Bulwer takes his hint from Bacon's observation that although Aristotle has written on personality traits as signified by the physical features in a state of rest (physiognomics), he has ignored the whole topic of expressions and gestures.

Delving further, Bacon asks about the influence of "the humours and the temperament of the body" on the soul, and of the passions of the soul on the body. He notes that medical writers have dealt with this to some extent. As a physician, Bulwer would have been well aware of the topic, as it was important to medical practice and was discussed in the literature going all the way back to Hippocrates. Under the influence of Aristotelian and Stoic dialectic, symptomatology and medical semiotics had been systematized, the most comprehensive system surviving from Antiquity being that of Galen.

The classic definition of a sign is found in Augustine, *De Doctrina Christiana* II.1: "anything which, beyond the appearance it engenders in the sense faculty, makes something else come to our knowledge (Maclean 2002:148–149)." Augustine understood that verbal language is not the only species of sign. While spoken language and its alphabetic representation became the main focus of the medieval study of signs, it was recognized that this does not cover the whole range of signs (cf, Augustine, *Doctr. Chr.* II.2–8). Things may also be signs, whether by arbitrary imposition, by customary association, or by necessary natural connection. Modern semiotics uses the terms of Charles S. Peirce, *icon* (a sign that bears a natural resemblance to what it signifies) and *index* (a sign that has a necessary connection with what it signifies).

Medical signs are both nonverbal and natural. An observable physical sign points to an underlying condition not by custom but by natural connection. In Peirce's terms, it is an *index*. In Galenic medicine, "disordered motions" or "injured actions" are recognized as a distinct class of symptoms (Wollock 1997:109–112). However, a physician must be able to recognize not only disease but also health and all

degrees in between. Thus, just as disordered motion is a class of symptom, so all motions of the body provide clues as to what Bulwer calls (borrowing a phrase from King James I's *Basilikon Doron*, 1599, also quoted by Bacon) "the present humour and state of the minde and will." This is virtually equivalent to the study of expression as suggested by Bacon, who himself reviewed the natural signs of fear, grief and pain, joy, anger, light displeasure, shame, pity, wonder, laughing, and lust in his *Sylva Sylvarum* (published posthumously in 1627), "Experiments in consort touching the impressions which the passions of the mind make upon the body" (Cent. VIII, experiments 713–722).

From this starting point, Bulwer advanced to an insight of his own. Implicitly linking the first chapter of Book VI of *De Augmentis* (on nonverbal signs, natural and artificial) with the physical expression of IV.1, he envisioned a theory blending natural action-signs with physical expression, unmediated by the arbitrary conventions of spoken language and supported by psychology, physiology, and rhetoric.

In VI.1, Bacon describes gesture and hieroglyphic as "emblems" conveying their meaning by resemblance to what they signify. He likens gesture to a transitory hieroglyphic, hieroglyphic to a permanent gesture. Natural resemblance or connection, as well as spontaneous production, become for Bulwer the key to the relationship between gesture and cognition.

But it is also possible to construct artificial nonverbal signs, which Bacon calls "real characters." These are as arbitrary as alphabetical symbols, and may be adopted by convention. Being abstract, and capable of systematization, they are more rational than the "primitive" hieroglyph and gesture, and thus an improvement and advancement.

Significantly, Bulwer scarcely alludes to the real character, except in one place where he refers to the gestures of the hand as the "universall character of Reason" (1644a:3), and another where he describes the correspondence between particular speech sounds (from whatever language) and the motions of the mouth necessary to produce them, as "very neere to the nature of an universall character" (1648:156, cf. 38–41). This lack of interest in the artificial real character can be explained by the fact that Bulwer, as a physician, privileged the natural over the artificial. This also had ethical implications – the natural is

morally superior to the arbitrary, misleading character of verbal language – an outlook he shared with Bacon (Wollock 2002:230–240). The real character, though intended to provide an accurate reflection of the structure of reality and all its interrelationships, was still an artificial construct; Bulwer preferred a ready-made, universal mode of expression emanating straight from the roots of human nature and the structure of the human body (cf. Wollock, forthcoming).

Bulwer is aware that natural signs are not free of an element of conventionality, but he does not see this as a contradiction. In being adopted by society they become conventional by definition. Augustine (*Dpctr. Chr.* II.25) writes that “All desire a certain resemblance in signifying, in order that the signs themselves should, as much as possible, resemble the things they signify. But because there are many ways in which something may resemble something else, such things do not qualify as signs among men unless agreement occurs.”

No less than words, gestures also have an intellectual or universal level of meaning, as Bulwer explains for the sign of blessing (1644a:144). Aristotle taught that even on the intellectual level, the mind cannot think without mental images: *Nihil in intellectu quod non fuit prius in sensu* (a medieval catchphrase derived from *De Anima* III.7 [431a14–17]). Thus, imitative signs do not signify concrete particulars alone: that “imitation is natural to man from childhood” (*Poetics* [1448b6]) is related to what Aristotle says in section 9 of the *Poetics* (1451a36–b11), arguing that the imitative arts are related to philosophy because every imitation is the representation of a universal idea.

Gesture is impossible without the ability of the body to move itself. *Pathomyotomia* (1649) begins by affirming that self-motion is the highest perfection of the animate creature, the Creator’s last and noblest end in the fabric of the body; that it belongs to the very substance of the animal; and that the chiefest and nearest instruments of animate motion are the muscles. “For were the abilities that proceed from motion and its instruments separated from the Body ... [man] could neither follow that which is wholesome, nor avoid what is noysome” (1649:2).

- He would be left destitute of the grace of elocution, and his mind would be forced to dwel in perpetual silence, as in a wooden extasie or congelation: nay his

Soul, which is onely known by Action, being otherwise very obscure, would utterly lose the benefit of explaining itself, by the innumerable almost motions of the Affections and passions which outwardly appear by the operations of the Muscles. (1649:3)

Similarly in *Chironomia* (1644b:24), the mind, “by some stratagem of wit,” expresses herself by “darting her rayes into the body, as light hath its emanation from the Sun.” Expressive gestures arise “by instinct of nature,” not by “statute of art” (1644a:1). Being natural signs, these demonstrative gestures derive their meaning from the unalterable laws of nature. Bulwer explains this by an analogy adapted from Augustine (*Dpctr. Chr.* II.2): gesture is as direct a consequence of “each motion of the Minde,” as smoke is of fire, a sweet smell is of incense, or the light of dawn is of the sunrise. Augustine’s examples are all what Peirce would call indexical signs or indices, phenomena that have a necessary connection with what they represent – in this case, effects signifying their causes – just like symptoms in medical semiotics. In other words, Bulwer believes that the formation in humans of a sign for fire is as spontaneous and as natural a consequence of the thought of fire, as smoke is of the fire itself. They signify particular states of the soul, including everything involved in their production – the whole Aristotelian action-syllogism: mental imagery, motivation, the neurophysiological functioning – including sensory integration – the entire mechanism that renders the process truly spontaneous and makes sign formation as much a physical as a mental act.

In the context in which Bulwer introduces them, such examples become still more complex, for they are not only indices of their instrumental causes, but as “transient hieroglyphics” they also bear a natural resemblance to what they represent (or to something necessarily connected with what they signify) – they are icons. This hybrid sign is what Anttila and Embleton (1995) call the *iconic index*; while this is not Bulwer’s terminology, it is clear that he refers here both to the imitative sign and to the entire process of its formation, its neuropsychology and neurophysiology. From this point of view, Bulwer sees all such manual motions and habits as arising by instinct of nature and devoid of artifice – purely natural, not imposed, not remote in

their meanings from the true nature of what is signified. Their natural resemblance or congruity to what they represent is a result of “mental habits” wrought in the pliant hand by a kind of “impetuous affection.”

What are these “mental habits”? They are those that form and concatenate mental images that direct the “pliant hand.” “When the fancy hath once wrought upon the Hand, our conceptions are display’d and utter’d in the very moment of a thought.” (1644a:4).

- The Hand . . . , receiving good intelligence of the patheticall motions of the minde, proves a Summarie or Index, wherein the speaking habits thereof significantly appear, representing in their appearance the present posture of the phansie. And as we can translate a thought into discoursing signes; so the conceptions of our minde are seen to abound in severall Dialects while the articulated Fingers supply the office of a voyce. (1644b:157)

This is true whether the volition is conscious or not. Speech and gesture are co-conceived in the mind, but gesture is almost simultaneous with thought. “And if words ensue upon the gesture, their addition serves but as a comment for the fuller explication of the manuall Text of utterance; and implies nothing over and above but a generall devoyre of the minde to be perfectly understood” (1644a:4). This is the opposite of what almost everyone else believed at the time, that is, that gesture was a decoration, at best a helpful adjunct to oratory – but it seems to be corroborated by recent scientific findings.

Is Instinct Voluntary?

But if gesture occurs by “instinct of nature,” in what sense is it a *voluntary* motion? In a discussion drawing on a treatise *On the Diseases of the Higher Faculties of the Soul* (Marinellus 1615) by the Venetian physiologist Curzio Marinelli (c.1560–after 1624), Bulwer explains, near the beginning of *Pathomyotomia* (1649:3) that the word “voluntary” is used in a wider sense in physiology and psychology than in ethics. Galen simply opposed the voluntary to the “natural” motions (such as digestion or the beating of the heart, today classed under the parasympathetic autonomic system). For Galen, as long as “we can excite these voluntary motions when we please, use them often or seldome, heighten them or abate them, and leave them quite off,” they are

“voluntary.” Some say that the muscle should be defined as the instrument of *free* or *spontaneous* motion rather than voluntary, for will presupposes reason; animals lack reason, but they have muscles. In the medical and biological literature on animate motion, “will” was not defined by rational appetite, but by appetite in general, “the propertie of the very Phancie it selfe,” as Bulwer notes, and what was called “voluntary motion” was not confined to humans (1649:4–5).

The question remains, if some form of knowledge must precede, how is it that sometimes we carry out actions unawares? Are there not many motions independent of our will? Bulwer denies this, following Marinelli in distinguishing between action *kata prohaeresin* (by conscious choice) and *kath’ormén* (by impulse), for example, in those who do a thing in their sleep, “when the outward senses are notably hindred” (an allusion to Aristotle, *De Somno*, 465a25–29 [462a19–26]). But all these actions proceed from the soul, not from anything extraneous, for “the Phansie may doe its worke and move when we perceive it not.” Even motions commanded by reason and will are physiologically identical to those of animals (1649:30–31). Galen in *De Motu Musculorum* II.4 (Galen 1821–1833: vol. 4:435–436), while he does not presume to know the cause by which we do things unawares, speaks from the probability of the matter, noting that

- wee are not intent with our whole mind upon them, as many have done actions which they forget to have done in fits of anger and passion, having made but a slight and superficial impression in their mindes . . . Contemplation of something, Custome, or some affection of the mind, may prove impediments to the knowledge of the Command of the will; for if our Cogitation be very intent upon a thing, so that it slights other things which had intended it, it errs from its proper end, which often happens to men when they intend a journey to a certaine place, and many times being engaged in other thoughts, doe passe it. . . . (Bulwer 1649:33–34)

Referring again (1649:34–35) to the phenomenon of somnambulism as described by Daniel Sennert (1572–1637) in his *Institutiones Medicinae* (1611), Bulwer concludes (with Galen, *De Motibus Manifestis et Obscuris*) that when actions are performed from force of habit, more or less unconsciously, the will

does operate, but obscurely and without attention (1649:33–37).

Another objection, raised by Girolamo Cardano (1501–1576) in his *De Subtilitate Rerum* (1550), is that it is not the soul and the muscles, but custom that moves the person unawares. In his famous riposte, *Exercitationes Exotericarum . . . De Subtilitate contra Cardanum* (1557), the Aristotelian philosopher J.C. Scaliger (1484–1558) replies, in Bulwer's paraphrase (1649:36):

- . . . what is custome? if I should aske, you would spend above two days in deliberation what you were to say, & it would fall out well if you could then come off with credit (Exerc. 339, 1620:1017–1018), Custome is nothing else but a habit, but a habit is not the cause of motions but a quality added to the motion [the qualities of promptness, order, and timing, according to Scaliger's own text], because it so adheres to the members, that [it] . . . brings forth its actions as they are to be done without any inquisition. Custome, indeed, and the aptitude of parts doe advance and helpe forwards the doing or perfecting of some motions.

Similarly, at Exerc. 307 (1620:948), Scaliger castigates Cardano for saying that there is memory in all parts of the body, for example, in the fingers, when we play on a lute. For

- the organs of memory are not in the fingers but answer to their own principles; exercise and custom cause these principles to be conjoined and present to their effects. In this way, we find our way home without any consideration or choice: because from the custom of the parts of the body, all the organs and spirits at once, are connected with the imagination and will.

Scaliger is talking about what Aristotle calls the *hexis poetiké* (operative habit), a relatively fixed quality acquired by repetition, through which a previously indeterminate agent is disposed to act in a definite way (Wollock 1997:127, note; see also Aristotle's *Nicomachean Ethics* II.4 [1103a29–b14] and *Met.* 5.1 [1047b32–35]: “We learn an art or craft by doing the things that we shall have to do when we have learnt it: for instance, men become builders by building houses, harpers by playing the harp” [cf. Wollock 1997:128]).

There is another sense involved in all voluntary motion. Bulwer does not mention it, but Scaliger does

at Exerc. 109. Aristotle (*De Sensu et Sensatu* vi, [445b5]) lists weight (*baros*) among the sensible qualities of a body; for the medievals as well, weight is not a quantity, but a quality perceived through the sense of touch. The key point is that for Aristotle, the organ (*aestheterion*) of touch is not the skin, but “the flesh (*sarx*) or [in other animals] its counterpart.” Ignorant of the true function of the nerves, Aristotle specifies the seat of all sensation as the *mória homoiomerei*, the simple or uniform parts (i.e., tissues), designating the nonuniform parts (which the medievals called the compound, organic, or official parts) as “the means for various activities.” (*Parts of Animals* II.1, 647a20–24; Wollock 1997:99, 115–118). Now, everything that we call muscle, Aristotle referred to as a kind of flesh. If flesh is the organ of touch and movement is a common sensible perceptible through touch, then one feels a proportionate sense of tactile movement in this flesh when either pushing or resisting an object possessing weight. Since the body itself, and every part of it, possesses weight, the weight of one's own body can be sensed in every local motion, whether of the whole body (*holon athróon*) or any part (*kata méros*). This is the same phenomenon that Bastian in the nineteenth century called *kinesthesia* and Sherrington in the twentieth, *proprioception*. Aristotle says (DA iii.1, 425a20–21), “it is clearly impossible for there to be a special sense of any of these common sensibles, e.g., motion.” As psychologist James J. Gibson (1966:238) wrote,

- The organs with their receptors set limits on the kinds of stimulus information that can be registered. The five modes of attention, listening, smelling tasting, touching, and looking are specialized in one respect and unspecialized in another. They are specialized for vibration, odor chemical contact, mechanical contact and ambient light, respectively, but they are redundant for the information in these energies whenever it overlaps.

Motion is a common sensible, perceptible by sight, hearing, and touch. This is what Scaliger means (*ibid.*) when he refers to the motive power, in the case of weight, as a power of *perception*. What is perceived, through touch, is its motion as a common sensible.

Sensory Integration in Skilled Motor Action

Speech is just such a motion, sensed not by hearing alone, but in common with sight and touch. In *Philocophus*, Bulwer therefore argues, by a fine analysis of the process of voluntary motion, that there is no reason the deaf should not be able to speak, if properly taught. For “Letters the true elements of speech [are] made of Motions, nay [are] nothing else but locall motions of the parts of the Mouth” (1648:17). He focuses on the relation of sense and voluntary motion, the relationship and community among the senses, and the manner in which complex motions are learned and become habit. Contrary to popular belief at the time (even among many physicians), their speech motor mechanism in most cases is unaffected by whatever it is that damaged their hearing. Speech for the deaf was something that, as Bulwer knew from his reading of Sir Kenelm Digby’s *Of Bodies* (1645), had actually been achieved in Spain; but in England, up to Bulwer’s time, it had not even been attempted and was generally assumed to be impossible.

It was *Chirologia/Chironomia*, particularly the illustrations, that led to Bulwer’s introduction to the deaf Gostwicke brothers and eventually inspired him to write *Philocophus*. Astonished at the brothers’ ability to communicate so well through gestures and facial expression, Bulwer confessed he had nothing to teach them on that score. But he sympathized with their desire to communicate with the hearing through speech. With this, the issue of iconicity is shifted. In the books on gesture, iconicity concerned the resemblance of sign to its object; here we return to the question of how one who does not speak can produce words similar to those of his interlocutor (cf. Bulwer 1648:156, 38–41).

Galen, in his *Commentaries to the Sixth Book of Epidemics* V.5.2 (1821–1833: vol. 17:236), notes that little children can imitate “difficult words, such as *stranx* and *sphynx*, as soon as they hear them, unaware of which muscles of the tongue have to be moved or how it is to be extended, curved, turned around, moved up toward or pressed against the palate, or the front teeth, or any other part of the mouth.” Galen confesses that he does not understand how they do this. The question preoccupied him; he raised it also in his *De Foetuum Formatione* cap.6 (1821–1833: vol. 4:689–691;

694–698:700) and *De Motibus Manifestis et Obscuris* (alluded to by Bulwer [1649:25–27], after Scaliger).

In *Philocophus* (1648), Bulwer gives the old question a new twist: no longer is it about infants with normal hearing, but about those, whether children or adults, who cannot hear. Emphasis now falls on the fact that the action of speech, even in normal speech development, depends not only on hearing, but also on sight and touch. It requires the integration of all these sense modalities, which Aristotle attributes to the *sensus communis* or common sense.

According to Aristotle, the common sensory is the faculty that senses the unity of the several sense modalities as adhering in a single object. Besides unity, it also senses other accidents common to the five senses, such as number, motion (change), rest, and magnitude, which are therefore called the *common senses*. In speech production, the linkage in the common sensory of auditory and tactile/proprioceptive (“muscular”) sensations according to their common rhythmic motion is clearly of central importance (Wollock 1990:19; in general, see Gregoric 2007).

The common sensory is crucial not only to perception but also to voluntary motion. Aristotle hints at this in *De Anima* III.1 (425a15–20). Motion, rest, shape, magnitude, number, and unity are the sensible objects common to the five senses, but *movement is primary*; through it we perceive the others. Indeed, he speculates (DA III.1, 425b3–11) that the very reason we have five special senses and not just one is so that we can perceive the common sensibles more clearly. Shape and size, for example, are difficult to discern by sight alone.

In *Philocophus* (1648:145–147) there ensues a disquisition on the coordination of the senses in the production and reception of speech. While possibly the most penetrating up to that time, it has the unusual feature that instead of the leading role in the coordination being taken by the sense of hearing, emphasis falls on the sense of sight, which must compensate for the lack of hearing. The happy result is that in this way Bulwer became the first systematic investigator of the role of sight in speech acquisition, an issue of great importance for hearing children as well as for the deaf.

- ...to imagine after what manner the words *seene* (or as we use to speake) *heard* with his *eye* were transferred to *pronunciation*, and againe to the *intellect*; is the

greatest difficulty of this businesse; we will suppose this *transmutation* was not performed without a necessary *junction* between those *words seene* and the *habit of moving the vocall Musculs*. ... (1648:145)

In this way, Bulwer is brought to the general idea of an “anagram” of the senses. Since sense perception always involves the integration of modalities, senses that are deficient can always, with special training, be compensated by those that are present. The reason the sense modalities are convertible in this way, explains Bulwer, is that they are all reducible to the common sensible of *motion*.

In *Philocophus* 145–147, Bulwer reviews the psychology of infant speech acquisition; comparing a normal child learning to read, to a deaf child learning to read lips. He notes that “by joyning the vision of wordes seen in their Horn-books, to the [teacher’s] representation of the sound” the children acquire a habit of coming into the auditory mental image of the sound through the visual mental image of the letters. (“out of the Phancie of the thing seen they may come through into the Phancie of the sound. . .”). “It being wel known unto us, that boys when they learn to reade, they bring forth a voice out of a sound (i.e., out of “the Phancie of the sound” in their imagination), and that is the reason why those who are Deafe by nature, are necessarily mute (i.e., because never having heard, their minds are devoid of auditory images)” (1648:145–146).

Bulwer goes on [1648:146] to suggest that infants learn to speak in a similar way. From hearing alone, they do not comprehend, but they “learne to know,” because “although wordes are not understood by an Infant, yet this Cognition which consists in sight and hearing is proper to them; for, man hath understanding . . . from his first Infancie. . .” (That is, they connect the sight of the object with the sound by which it is called, and this is an elementary level of understanding.) And just as understanding comes from words thus seen or heard, so may it come after the same manner from the sight of writing. “For writing is “a kind of visible speech permanent, as the motions of the mouth, are a transitory speech.” This is an adaptation of what Bacon says about hieroglyphs and gesture (*De Augm.* VI.1): “Gestures, however, are as one might say, transitory hieroglyphics. And thus the hieroglyphics

expressed by gestures are transient, while those that are painted endure.” From this, Bulwer might have glimpsed a closer parallel between gesture and speech; but there is no indication that he did, because he seems to have always considered speech to be as arbitrary and artificial as gesture was natural. His only concession to naturalness in speech comes in an idea borrowed from Lazare Rivière, that interjections expressing certain emotions are natural because even the deaf make them (*Philocophus* 1648:125–126).

Speech acquisition in infants is another example of voluntary motion that is at the same time a natural instinct. As Bulwer counsels in *Pathomyotomia* (1649:225–226),

- Neither need it to trouble any one, seeing a thing [226] that is done out of Deliberation, and which seemes to proceed from Prudence, to be done by Infants, and of us without considering of it; for, Nature (as Hippocrates saies) is Learned without a Teacher. These are done by a certaine Instinct, but not such as most men take to be Naturall, for we understand this Action to be voluntarily done, because when we please we can begin it and restraine it . . . for, our voluntary motion is done somtimes by Deliberation, and sometimes by Imagination; Imagination alwaies prevents and goes before Deliberation . . .

Bulwer returns to the question of psychophysical coordination and habit-formation in the learning of speech at the very conclusion of the book:

- The first principles indeed are but simple and naked; but it is a wonderfull thing to consider the great distance betweene them, and the strange readiness and vast extent of speech resulting in process of time out of them: whereof it is enough for us to finde a ground for the possibility of the operation, [i.e., in theory] and then *the perfecting of it and reducing of it to such a height, as at the first might seem impossible and incredible, we may leave to the energeticall power of Art*. Hee that learneth to read, write, or to play on the Lute, is in the beginning ready to lose heart at every step, when he considereth with what difficulty and slownes he joyneth the letters, spelleth syllables, formeth characters, fitteth and braketh his Fingers (as though they were upon the Rack) to stop the right frets, and to touch the right strings; And yet you see how strange a Dexterity is

gained in all these by industry and practice; and a readinesse beyond what wee could imagine possible, if wee saw not dayly the effects. (1648:189–190)

Hearing with the Eye?

Fully two-thirds of Bulwer's *Philocophus* is a line-by-line commentary on a section of Sir Kenelm Digby's treatise *On Bodies* (Paris, 1644, London, 1645) in which he talks about the "Constable of Castile's brother" (i.e., Don Luis Velasco), a deaf man in Madrid who had been taught to speak (Wollock 1996: 7. 14–17). Referring to him in Chap. 28, Digby says: "I have seen one, who could discern sounds with his eyes. 'Tis admirable, how one sense will oftentimes supply the want of another." And again, "I mentioned one that could hear by his eyes; (if that expression may be permitted me)."

Bulwer was much taken with this idea. He writes, *Philocophus* (1648:70–72):

- Now whether the expression of hearing sounds with the Eye may be permitted, will appear, if it cannot be denied but that Hearing is nothing else but the due perception of motion, and that motion and sound are not different entities, but in themselves one and the same thing, although expressed by different names and comp[r]ized in our understanding under different notions, which is proved by the observation of sounds which follow the lawes of motion, for every effect of them is to be demonstrated by the principles and proportions of motion... Aristotle [DA II.8 419b4–13] therefore defines sound by motion, and the Voice to be a kind of percussio, and therefore sound is the same with motion, and no resulting quality; which may be further convinced by the ordinarie experiment of perceiving Musique by mediation of a sticke: for, a man is capable of that sound no otherwise than as bare motion is sound. Now since articulate sound or motion may be perceived by the Eye, then it may hear as well as see, and hear by seeing. It will be no great impropriety of speech to affirme the Eye may hear, since it can perceive the adequate object of hearing, and performe the office of an ear in judging of sound as it is motion (all sound being motion as soon as it is perceived) and the thing which we call sound and makes speech audible, being purely motion. Indeed sound which is but an accident of speech, & which is as they commonly speak, the sensible quality

of Hearing, is reckoned by Philosophers to be *proprium sensile*, to wit, to be perceptible but to one sense: yet as it is figure and motion, which two always imply one another, and of the essence of speech, it may be accounted *commune sensile*, and be perceived by more outward Senses than one.

Digby's philosophy was a blend of Aristotelianism and atomism. Bulwer, in "saving" Digby's text, wound up adopting a view contradictory to his own Aristotelian perspective. It would take sophisticated experimentation to discover the relation of motion to the other senses, but that sound was caused by motion had been known since time immemorial. Aristotle did not reduce sound to motion, however, but taught that it is *caused by* motion (Pasnau 2000). For Digby, on the other hand, the "resulting quality" would be nothing but an illusion. The reduction of sound to motion threatens to destroy the distinction between proper and common sensibles.

Yet the notion of "hearing with the eye" was not entirely alien to Aristotle, for he taught (*De Anima* III.1 [435a30–425b2]) that the senses perceive each other's special objects, albeit *incidentally*, because they all form a unity. When this sensory unity perceives two different sense qualities in the same object, the unitary sense makes it seem as if one sense is perceiving another's object. The real problem in that formula comes when a particular sense is lacking, as in the case of deafness. How can a sound be said to be perceived incidentally, when it is not perceived at all?

The actual Aristotelian theory of motion as a common sensible clearly explains the function of the senses in speaking; if hearing is present, it coordinates with the other senses; if lacking, its absence can be compensated by the remaining senses. The doctrine that Bulwer borrowed from Digby, that "sound is the same with motion and no resulting quality," contradicts his otherwise Aristotelian orientation, and may be described as mechanistic. (On the Cartesian theory of hearing and Digby's relation to it, see Gouk 2004:131–144.)

Was Bulwer a Mechanist?

With Richards (1992:73), one can say that Bulwer was a mechanist only in the limited sense in which the term might also apply to Bacon. In *Novum Organum* II, aphorism 5, Bacon hints at a mechanical application

to voluntary motion and speech, within the general aims of his whole philosophy, where he suggests an investigation.

- ...on the voluntary motions of animals, from the first impression on the imagination and the continued efforts of the spirit up to the bendings and movements of the limbs; or concerning the motion of the tongue and lips and other instruments, and the changes though which it passes till it comes to the utterance of articulate sounds.

This reflects Bacon's larger goal of reorienting science toward technology. Thus, we find phrases in Bulwer like "the clockwork of the head, or the springs and inward contrivance of the instruments of all our outward motions, which give motion to and regulate the dial of the affections which nature hath placed in the face of man ..." (from the dedication of *Pathomyotomia* to his father, 1649). This mechanistic language, however, is here no more than figurative: it helps to create a *myth* of a new technology. "From its first formulation by Francis Bacon," writes historian Michael Zuckerman (1993:254), "the modern mechanistic world view was a faith that outran the empirical evidence and remade the world in its own image."

In *Philocophus*, chapter 13 (pp. 45–49), Bulwer discusses the possibility (following Bacon's suggestion in *Sylva Sylvarum*, Cent. II, exp. 200) of imitating "the motions of the parts of the mouth in speech" by "mathematicall motions." In itself this thought contains nothing beyond the biomechanics of Aristotle's *De Motu Animalium* and *De Ingressu Animalium*, except for the more Platonic suggestion that behind these motions lie mathematical regularities; but this makes them amenable to mechanical imitation, toward the construction of what Bulwer calls a speaking "engine." Even in current cognitive science, this same mechanist (now computationalist) model continues to inspire new research, even though there is little evidence that the human mind works like a computer.

On the physical cause of animate motion, however, Bulwer follows Aristotle in attributing the mechanical motion to *qualitative* change in the underlying substance of the parts of the body: "whence the sense offering what is desired, the motions are done no otherwise then as you see in machines, the pullies loos'd, one thrusting forward the other, *but in*

machines without the mutation of qualityes, but in us the formall cause of motive heate and spirits is transmitted withal to the parts ..." (1649:17–18, emphasis added). Aristotle had described the substance of the parts executing motor action as capable of becoming larger or smaller by changing from solid to liquid and liquid to solid (*De Motu Animalium*, 701b13–16, 23–24); Galen described the action of the nerves as something akin to electrochemical changes, or as he puts it, a flow of heat and light through the nerve substance.¹

As to actions performed unconsciously from force of habit, Bulwer does not adopt a purely mechanical explanation like many of the later Cartesians. Rather he holds to the old Galenic position that even in such cases the intellect does act, but obscurely and without attention. This also agrees with Aquinas (*Summa Theologica*, Part I, quest. 84, art. 8, obj. 2; and Second Part of Part II, quest. 154, art. 5). Thus, as a Baconian experimental anatomist and physiologist, and as a physician, Bulwer was certainly very interested in the *mechanisms* of the human body; but he was not philosophically a *mechanist*. (The difference is immediately apparent if one compares Bulwer with Giovanni Borelli, *De Motu Animalium* of 1680, who really was a Cartesian mechanist.)

More accurate is Rowe (2001:79), who refers to Bulwer's "biomechanical but resolutely organicist explanations." His basic assumption, uncontroversial in that age of controversy and in harmony with the Galenic heritage of *De Usu Partium* and *De symptomatibus*, as well as with Bacon's DA IV.1, was that the soul expresses itself through the motions of the body, the only way the human being can express itself. And here we see another difference from Descartes's *Traité des passions de l'âme*, published the same year (1649), wherein the mind is distanced from the body with the whole palette of human expression being attributed to the purported pneumatic mechanism of nerves transporting a fluid from the pineal gland (the alleged seat of the soul) to the muscles, making them expand and shorten.² This type of theory was already shaken as early as the 1660s when Jan Swammerdam (1637–1680) demonstrated that a contracting muscle does not change its volume, and was confirmed for human muscles by Francis Glisson (1597–1677) in 1677 (Cobb 2002).

Richards (1992:18) criticizes the inclination of writers on the history of psychology to automatically assimilate seventeenth-century discourse to modern preconceptions, attributing this to the “question-begging assumption” that if psychology is a bona fide “science,” it must be “traceable to the beginnings of ‘science’ in the Scientific Revolution (hence Bacon, Galileo, Descartes, etc., earn inclusion simply by virtue of being leading figures in that revolution.” Nevertheless, he finds Bulwer (at least in the *Pathomyotomia*) in many ways closer to modern psychology than his more famous contemporaries.

- ▶ The general tenor of *Pathomyotomia* anticipates modern psychology far more closely than that of Descartes’s work. Bulwer is not concerned with the philosophical question of the soul’s relationship with the body, being content to accept that whatever the nature of the soul, its ‘motions’ are knowable only by the outward expression, but neither is he a physiological reductionist. (1992:72)

Richards takes this further:

- ▶ All the major orthodoxies on this matter appear to be seriously flawed . . . by a retrospective ascription to the major philosophers of the period of interests, aims and attitudes analogous to those of contemporary psychologists. . . . On the contrary, it appears that their prevailing interests were either theological or political, and that their statements on psychological matters were invariably manoeuvres within the theological-cum-political arena or [sic] normative moral discourse. (1992:91)

Richards (2004:671b) is right as to the genuine scientific value of Bulwer’s writings. But there is no reason to deny that he was also “concerned with the philosophical question of the soul’s relationship with the body.” And from all indications, he had strong political and theological views (Royalist and ritualist Anglican, see Wollock 2011), but the polemics are fairly subtle and unobtrusively supported by the traditional Aristotelian psychology (as slightly colored by Bacon and Digby) to which he adhered.

Influence

Bulwer had little influence in England in his own time and for a very long time thereafter. In the unsettled

conditions of the civil war and Interregnum, alienated from the main scientific circles in London, he died 4 years before the Royal Society was founded, with no one to champion his legacy, and with a great shift in intellectual style just beginning. Immediately after his death, Cartesian and neo-Cartesian theories of mind and body would come into ascendance for many decades, casting Bulwer’s traditional Aristotelianism in the shadows. Interest shifted to corpuscularianism and other materialistic theories.

These were the same forces that stifled the influence of Bacon himself in psychology, despite the fact that British science saw itself as bearer of the Baconian legacy. The direct Baconian impact on psychological thought in Britain was delayed by over a century (Richards 1992:18), largely due to the influence of Cartesianism. Bulwer on the other hand took Bacon’s idea of a science of humanity very seriously, and we can agree with Richards (2004:671b) that “his works more nearly approach modern psychology in character than those of his illustrious philosophical contemporaries . . . only at the end of the twentieth century did his long neglect as a serious thinker begin to be rectified.”

Bulwer’s influence in the seventeenth and eighteenth centuries was extremely limited. The Cartesian system of emotional expression developed by Charles Le Brun (1619–1690), Louis XIV’s favorite painter, “Méthode pour apprendre à dessiner les passions,” originally presented as a lecture before the Académie Royale de Peinture et de Sculpture in 1668 and first published by his student Henri Testelin in 1680 as *Sentiments des plus habiles peintres sur la pratique de la peinture et de la sculpture*, seems to have been loosely associated in the public mind with Bulwer’s work, but helped only to eclipse it (Cottegnies 2002). Bulwer’s ideas on gesture may have had some influence on rhetorical handbooks such as that of Obadiah Walker (*At of Oratory*, 1659), but if so it was unacknowledged.

In the later eighteenth century, Francis Green (1742–1809) of Boston, the father of a deaf son who was a pupil at the academy of Thomas Braidwood (1715–1806) in Edinburgh, published *Vox oculis subjecta, a dissertation on the most curious art of imparting speech, and the knowledge of language, to the naturally deaf, and (consequently) dumb*. . . . London, 1783, which contains extensive quotes from Bulwer. Green, the first advocate of the oral method

in America, also adopted a version of Bulwer's pen name: "Philocophos."

Nineteenth Century

During the nineteenth century, Bulwer's name was routinely cited, but no more than that, in virtually every potted history of English deaf education. With few exceptions, no serious attention was given to his writings. Thus when, for example, surgeon Charles Bell published his *Anatomy of Expression* (1806) and *Anatomy and Philosophy of Expression* (1824), he did not mention Bulwer, despite the fact that his basic standpoint, that the muscles controlling facial expression were divinely created to express uniquely human feelings, was similar to Bulwer's. In all likelihood, Bell did not know Bulwer's writings. It is easier to understand why Bulwer's work held little interest for the evolutionists later in the century: their philosophy was diametrically opposed to his. For Darwin, in his famous work *The Expression of the Emotions in Man and Animals* (1872), expression is a sign not of the working of the soul or mind, but of the working of natural selection over time (Ekman 2006).

The great neurophysiologist Charles Scott Sherrington (1857–1952), though certainly a Darwinian, would come to realize that this view of causality was overly restrictive. In *The Integrative Action of the Nervous System* (1906), Sherrington stated that "In light of Darwinian theory every reflex must be purposive. We here trench upon a kind of teleology. . . . The purpose of a reflex seems [a] legitimate and urgent . . . object for natural enquiry. . . . And the importance to physiology is, that the reflex reaction cannot be really intelligible to the physiologist until he knows its aim" (1906:235, 236). This is the famous distinction between *adaptation* and *adaptability* in biological causality. As Ragnar Granit, Sherrington's student and a major neurophysiologist in his own right, explained, "The nervous system cannot be understood without reference to its adaptability, its actual function in the life of the individual, its performance relative to the external world" (Granit 1975:262). The expression of emotions, as a form of communication, is an essential part of the day-to-day adaptability of the organism to its environment.

It is precisely adaptability that Bulwer has in mind in considering the purpose, or function, of the muscles of expression. In the dedication to the *Philocophus*

(1648, unnumbered p.), he describes it as his "Darling study to interpret the richnesse of our discoursing gestures . . . [even] to the following of them downe to their spring-heads and original, even to the finding out of their Radicall Derivations and Muscular Etymologies by that thorough progresse of observation . . ." He surely has in mind here the Aristotelian–Galenic doctrine that it is the function (final cause) that defines the organ, not the other way around; that every organ has a principal active part and other auxiliary or helping parts; and that a power is known only through the actions by which it is manifested (Wollock 1997:23 n.49; 99). *Contra* Darwin, expressions are not simply atavistic survivals of utilitarian functions of lower animals, not arbitrary signs to which meanings have been habitually attached, but the most universal and fundamental building blocks of human social communication, and thus of social life itself.

This notwithstanding, in the posthumous second edition of Darwin's *Expression of the Emotions* (1889), in the first footnote to the reprint of the Preface to the First Edition, it is acknowledged that Bulwer's *Pathomyotomia* "gives a fairly good description of a variety of expressions, and discusses at length the muscles involved in each," and that Dr. Daniel Hack Tuke (1827–1895), in his *Illustrations of the Influence of the Mind upon the Body in Health and Disease* (a work first printed in the same year as Darwin's *Expression*, 1872), "quotes the *Chirologia* of John Bulwer as containing admirable remarks on gesture." That this note appears in brackets indicates that it was added by Darwin's son Francis, no doubt at the wish of his father (Darwin 1998:xiii–xv), who knew Hack Tuke and had read his book (see Charles Darwin's letter to Hack Tuke, Dec. 22, 1872).

Two very fine articles were published on Bulwer in mid-century, the anonymous "Bulwer's Muscles of the Mind," in *Fraser's Magazine* 32 (October 1845), pp. 341–349; and another anonymous article, perhaps written by editor Winslow L. Forbes, "A Medical Psychologist of the Seventeenth Century," in the *Journal of Psychological Medicine and Mental Pathology* 13 (1860), pp. 294–314. These remain among the very few that deal with Bulwer's work specifically from the viewpoint of psychology.

In 1885, pediatric neurologist Francis Warner (1847–1926) published *Physical Expression: Its Modes*

and *Principles* (London, Kegan Paul, Trench, 1885), which accords Bulwer a prominent position in the history of the subject and quotes him extensively. Warner was already aware of Bulwer by 1882, when he published “Visible Muscular Conditions as Expression of States of the Brain and Nerve Centres,” in the neurological journal *Brain*, in the twelfth installment of which (vol. 4, p. 204), he devotes a paragraph to the *Pathomyotomia*:

- [Bulwer] expresses his opinion that every motion of the mind is indicated by a corresponding motion of the muscles. This is the same idea that Camper expressed later, and as is now well known to the physiologists, that all postures and movements are the result of changes in nerve-centres. To study the conditions of the mind it is necessary now, as in former times, that the postures and movements of the body should be largely observed In all cases, after describing the expression of a state of mind, Bulwer endeavours to explain which muscles take part in the act.

Warner was a Darwinian and held Darwin’s *Expression of the Emotions* in high regard. He certainly did not speak, like Bulwer, in terms of the soul of Aristotle and Galen, or of the body as its instrument of expression. Yet Warner was clearly impressed with Bulwer’s *Pathomyotomia* because, as a clinician, he greatly admired his forerunner’s detailed observations on expression and gesture as visible signs of muscular actions. As he emphasized from Bulwer, all expressions of the feelings, of the mind, particularly those of the face, are produced by muscles under the brain’s command.

Mrs. Alexander Graham Bell (Mabel Gardiner Bell), a teacher of the deaf, saw Bulwer from a different perspective. Having lost her hearing as the result of a childhood disease, Mrs. Bell was a highly accomplished lip-reader and a great admirer of Bulwer. Her insights into the psychology of what she preferred to call “speech reading” are a valuable supplement to Bulwer’s own theories. She published an article on Bulwer in the Proceedings of the fourth summer meeting of the American Association to Promote the Teaching of the Deaf (Bell 1894), followed more than 20 years later by another on the same subject in the *Volta Review* (Bell 1917), which was widely distributed as a reprint.

Relevance to Modern Theories

In the late nineteenth and early twentieth century, psychologists began again to take up questions not unlike those that attracted Bulwer’s attention. In explaining infant speech acquisition, James M. Baldwin (1894) defined imitations as “circular” reactions” or “motor processes that tend to reproduce their own stimuli” (Baldwin 1894: 133, specifically referring to infant speech; cf. 367–398). To this, Josiah Royce (1895:218–219) commented that the intermediate stages – in effect, translations of, for example, auditory impressions to visual, then to muscular, and from one type of muscular action to another – are not “a spontaneous accidental association” but “the gradual and habitual outcome of all the motor processes of [the] careful attention,” which arose from the child’s “deliberate effort to reproduce what he heard.” “This intermediate stage is . . . not itself the result of a function that reproduces its own stimulus, but of a function that produces, in image form, contents which are not those of the stimulus, but which have relations similar to those presented in the regular stimulus” (219). Thus, imitation must entail interpretation.

As educator George B. Germann (1873–1958) wrote:

- . . . the instinctive character of imitation and the apparent lack of any but the most rudimentary reasoning power, would lead us to conclude that practically all of the infant’s early imitations are probably sub-conscious or involuntary. He reacts to a copy simply and solely because he cannot help reacting. The constitution of his being compels him to react. . . . we may hint that the educational significance of this imitative tendency of both children and adults is to be found in the fact that imitative reaction if persisted in soon become crystallized into habits. . . . (Germann 1901:56, 57)

Perhaps the most interesting and important field of imitation in the infant is language acquisition, which

- has received its preliminary impulse through the early . . . babblings of the preceding months. Power to articulate arises and increases through these babblings, and associations are established between the coordinations necessary to make a sound and the sound itself as heard. When this coordination has become

sufficiently matured, it needs but little more than to have an appropriate sound made by another, in order to produce the necessary responses, responses which become easier and smoother through practice. As Preyer³ states, “although philologists may still dispute much over the possibility of the origin of language from other sources, nevertheless sound imitation remains without doubt the first and most important factor in the learning of language by the individual.” (Germann 1901:57–58)

Aside from the narrower understanding of the word “voluntary,” in agreement with modern usage, this is the very problem that baffled Galen, but which Bulwer was beginning to solve as an instance of sensory integration and automatization. Bulwer does not specifically refer to the phenomenon of babbling, but it is briefly described by the Italian physician Luigi Setkala (1552–1633) in his Commentary to the Aristotelian *Problemata* xi.27 (Wollock 1997:127–128). However, Bulwer does emphasize that the imitation of speech sounds by motions of the mouth is a totally natural phenomenon (1648:156; cf. 38–41).

As developmental psychologist George Butterworth (1947–2000) notes (1994:120), it was Sherrington who first addressed the question of neonatal imitation (especially puzzling when it involves parts of the body the infant cannot see) by way of his distinction between *proprioception* and *exteroception* (1906:130). The integration of these two processes is the root of bodily self-awareness, and thus the key to imitation (Butterworth 1995:88, 98). Neonatal imitation, for example, depends on proprioceptive aspects of visual perception. These perceptual systems provide information not only about one’s own body, but also for the equivalence between self and other. It was Sherrington (1907, p. 472–473) who first demonstrated that the proprioceptive circuit is influenced by the exteroceptors, noting that “the reactions produced by the receptor organs of the deep field (proprioceptive) are results primarily due to the stimulation of the organism by itself, but secondarily due to the stimulation of the organism by the environment,” that is, as perceived through the exteroceptors. “Imitation, therefore,” concludes Butterworth (1994:121), “seems to be based on the mechanisms of perception. Perception carries information for self and

for the external environment and can be considered as if it were a phase of action, just as action can be considered as if it were a phase of perception.”

The trained body, starting from a given set of conditions, “knows how” to move, and this very movement is perceived to correspond to the mental imagery from which it originated. In other words, the coordinative structures are controlled by vestibular/proprioceptive and external sensation coordinated by the central sense power (cf. Sherrington 1953:244–245). Is this not what Bulwer refers to as the “necessary junction between those words seene and the habit of moving the vocall Musculs...”? (1648:145)

In the late 1990s, a new type of nerve was identified – mirror neurons. These mirror neurons, first discovered as closely related to the grasping mechanism in monkeys, have been shown to be the basis of human imitation, a response that replicates prominent gestalt features of its own stimulus.” It has been suggested that this is the principle of human empathy and through that, of human society and culture, of which imitation is the foundation (Arbib 2006). In other words, imitation is a natural response, it is not based on reasoning; but perception of difference between the imitation and its object is the very foundation of reasoning.⁴

Conclusions

Bulwer was, in the style of his day, both a scientific investigator and a philosopher. The larger issues he grappled with continue to confront modern researchers, who are only now beginning to recognize him as a pioneer in their field. We realize that he was in fact the first to take a scientific approach, consciously in the spirit of Francis Bacon, to many psychophysical issues of human communication that are of great interest today, whereas his philosophical insights are drawn from the whole history of the subject, emanating particularly from Aristotle and Galen (whose psychological acumen is today recognized as timeless) and their late renaissance interpreters like Scaliger (1620 [1537]) and Marinelli (1615). If Bulwer was ignored for so long, we can say in hindsight that this is not because he is unimportant, but because it has required a long historical perspective to understand that he was “ahead of his time.”

Bulwer made a valuable contribution to the science of his day – but a contribution that was very little noticed and was immediately submerged by the great changes in intellectual style introduced in France by Cartesianism and in England by the corpuscularian science of the Royal Society. With a few exceptions, it is little more than half a century since the pioneering nature of his contributions has begun to be appreciated. Still, this is only a historical injustice. The question remains, has Bulwer a positive contribution to make today?

Bulwer's key insight – that gesture is closer to the expressive impulse, with spoken words acting as a sort of commentary on the gesture (1644a:4) – is backed up in recent scientific findings by, among others, the late William Stokoe (2001), David McNeill (2005), David Armstrong, Sherman Wilcox (Armstrong and Wilcox 2007), and Adam Kendon (2005, 2007, 2008). In addition, the whole approach to learning that Bulwer represents, with its integrative and interdisciplinary vision of psychology and language, remains of great scientific and philosophical importance. It is the “cognitive” disciplines, especially cognitive psychology, cognitive linguistics, and cognitive semiotics, today, that especially need to hear Bulwer's voice, and with his guidance, begin to recover the classical tradition of inquiry in the psychophysiology of language and semiotics of which Bulwer was one of the last exponents.

Notes

1. “Galen understood this flow of power as equal to the transmission of some quality which provokes metabolic changes in the substance of the nerve. He compared this doctrine with the concept that heat and light rays issuing from the sun merely transmit the qualities of heat and light but leave the substance of the sun unchanged” (Siegel 1968:194). See also Wollock (1990:18; 1997:115, 130).
2. Descartes further distances the mind from the body by claiming that the signs of our passions are purely arbitrary, that they are connected with certain emotions by mere habit. A consideration of the universality of many of these basic expressions would reveal this as highly dubious (Ekman 1994, 2006). In the nineteenth century this was incorporated in Darwinism, because the concordance to humans of

these responses in lower animals introduced no philosophical problems if the whole phenomenon was considered merely physical.

3. William Thierry Preyer (1841–1897), English-German physiologist whose two-volume work *The Mind of the Child* (*Die Seele des Kinds*, 1882), based on observations of his own son, was the first detailed study of childhood mental development.
4. As Kempf (1918:22) already understood early in the twentieth century, the reflex discoveries of Sherrington may be the mechanism for understanding the behavior of others – that is, by miniature forms of reflex reproduction of the movements of others. The proprioceptors, by giving the appropriate kinesthetic sensations, enable the personality to become aware of the significance of the posture and movements or behavior of others. Children, spontaneously and unconsciously, learn by imitation; they imitate sounds, the movements of animals, a speaker, teacher, playmate, machinery, when they are trying to get the full significance of the thing observed. We tend to reproduce another's movements when we describe conduct, adults often imitate facial expressions to understand faces of others, our facial muscles tend to reproduce the facial expressions of our associates. The more clearly we are able to reproduce another's behavior or facial expression the more accurately we understand its significance. (Edward J. Kempf (1885–1971) was an early American contributor to psychoanalytic literature who published three books and 32 papers between 1913 and 1965.)

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Psychology and Antisemitism

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Introduction

Origin and Definition of the Term Antisemitism

The term was first accredited to Wilhelm Marr who, in 1879, used the term to provide a racial scientific basis for his ideological hatred of Jews. Given the direct linguistic connotation and the associated racial connotation of the term, *Semite*, some Arabs have claimed that they cannot be guilty of antisemitism, because they speak a Semitic language and are, themselves Semites (Laqueur 2006, pp. 21–22). In a cultural context, however, the term is never used to refer to Arab peoples or Muslims, and throughout the Western world and the Middle East the term refers exclusively to hatred of Jews. Accordingly, it is more appropriate to eliminate the confusion between hatred of Jews and hatred of all so-called Semitic people by using an uppercase A and combining both terms in one word, “Antisemitism.” And this spelling will be used henceforth. The original hyphenated spelling is used only when it is in accord with the usage of a particular author.

A dictionary definition of antisemitism is “prejudice and hostility toward Jews in general.” Minor exceptions are made by people who hate Jews, and may even like a few Jewish acquaintances, but regard them as atypical, and not at all like the rest of the Jews. This behavioral stereotype comprises both cognitive and behavioral components:

- (a) Antisemites judge the behaviors of most Jews by a different standard than they apply to members of other groups. Mannerisms, transgressions of social norms, and crimes committed by some Jews are judged by a more severe standard than when committed by members of other religious, ethnic, and/or nationality groups.
- (b) Antisemites make more generalizations about Jews, primarily negative, than they make of other

groups. They believe that what some Jews do is an inherent trait of Jews in general. If Jews are successful in business, it is because they are avaricious and that they accumulate their wealth at the expense of others. The classic example of this stereotype is Shylock, the Merchant of Venice, a despicable, cruel Jew, interested only in accumulating wealth by maximizing his money lending profits. This type can be found repeatedly in Western literature and persists to this day.

Other racially inspired notions based on documented sources are listed below in rough historical sequence:

- (a) Jews are dishonest and lie whenever it furthers their interests.
- (b) Jews are loyal to Jews and not to the country in which they reside.
- (c) Jews regard themselves as “the chosen people,” are clannish and exclude others, and consider themselves superior to all other people.
- (d) Jewish women are lascivious and try to corrupt the moral standards of the society in which they reside (e.g., Egyptian soldiers justified killing women tourists in Sinai because these Jewish women reportedly danced nude in their presence; a Jordanian soldier killed teenage girls for the same reason at a ceremony to celebrate peace between the two countries).
- (e) Jewish men exploit the innocence of God-fearing, racially pure young women (e.g., Nuremberg trials of Jewish men for purportedly making sexual advances to Aryan women).
- (f) Jews control the press and the government in the Western democracies or persist in efforts to achieve control.
- (g) Jews conspire as a group to overthrow the established order and to control the world.
- (h) Jews promulgate the myth of the six million Jews killed in the Holocaust to make Europeans feel shame and guilt in order to extort undeserved reparations from them.
- (i) The extent that Jews were killed during World War II was not disproportionate; they were not singled out for death any more than the millions of Polish and Russian civilians who perished.
- (j) The provocative behavior of Jews in Europe elicited in large part the frustration and rage that ultimately led to the murder of Jews during the War.
- (k) The Zionists collaborated with Hitler in killing European Jews in order to justify the establishment of a Jewish State (e.g., the doctoral dissertation in 1982 of Mahmoud Abbas, current President of the Palestinian Authority).
- (l) The destruction of the Twin Towers and the other attacks on 9/11 was engineered by the Mossad (Israel’s Secret Service) to incite the West against Islam; Jewish workers were told not to report for work that day.

Economic Disparity

Prager and Telushkin (1985) demonstrate that resentment of Jewish success and affluence relative to economic standards prevailing in the non-Jewish majority in any given society among whom Jews reside does not explain antisemitism. First, because economic disparity exists within lower and middle class Christians or Moslems in their own societies without class-related massacres. Second, the hatred of the lower or working class toward the middle class or the aristocracy has never been universal or as intense as the hatred of all of these classes toward economically successful Jews. Economic disparity or economic depressions exacerbate the latent animosity already present toward Jews and cause it to erupt, but do not explain why the targets for this animosity are the Jews to begin with.

Xenophobia

The same caveat and conclusion apply to people harboring ethnic prejudice, hatred, and even murderous intentions toward others. Xenophobia, the collective term used for this phenomenon, takes the form of fear, antipathy, contempt, and/or hatred of those who are different from the rest of us. This phenomenon has always existed between different ethnic groups (Greeks and Persians, English and French, Europeans and Asians, the list is endless). Xenophobia has declined in recent years because of the relative ease of relocation (temporary or permanent, of people who wish to tour, study, or work in other countries). Moreover, recent technological advances in mass communication have created the one world or global village in which we live today.

Mass Communication

On the other hand, these same technologies have created the means through which hatred can be communicated worldwide (Milburn and McGrail 1992). The United States Holocaust Memorial Museum in the 2009–2010 annual report stated the following:

- The Holocaust did not begin with murder, it began with hate. ...and something unique to the 20th century – the development of mass communications with the ability to exploit people's hopes and fears. How were the Nazis able to win elections in one of the most highly educated nations in the world? In a democracy with a free press? They knew not only the power of propagandas, but also how to marry it to the most advanced technologies. In our day the Nazis would be on Web sites, Twitter, Facebook, and cell phones. And that is precisely where the haters are – no longer isolated but forming communities. (p. 3)

As a consequence, it becomes easy in democracies that have known hatred of Jews in the past for some individuals to express antipathy, if not hatred of Jews, and to boycott with loathing Israel, the Jewish State, especially if they substitute the word Zionist for the word Jewish. Hatred of the Jews may exist where no Jews ever lived in substantial numbers (e.g., Japan) or where Jews no longer live (e.g., Poland, Egypt, and other European, Asian, or African countries).

Religious Bigotry

Religious bigotry per se has been proposed as a generic cause of violence and conflict for hatred of Jews. The conflict between different religions, different religious belief systems, and different religious ways of life has existed from the dawn of the polytheistic and later of monotheistic religions. Pagans have killed Christians and Christians have killed members of other Christian sects (e.g., Roman Catholic, Lutheran, Protestant, Mormon, and Christian Scientist). Within Islam Sunni and Shiite continue to fight, but all Moslems share animosity toward other religions (e.g., Bahai, Christians, and Buddhists). However, as Tom Lehrer, the Jewish Harvard-trained mathematician and pre-Bob Dylan folk singer, asserted in one of his satirical songs, "Everybody hates the Jews." Those who hate Jews may themselves be atheists or agnostics and they may hate Jews who have

converted to other religions or Jews who no longer profess or practice Judaism.

Source of Blame for Adverse Events

Prager and Telushkin (1985) assert that the causes for Antisemitism must be selectively universal and account for the repeated eruption of intense hatred against Jews in different countries and under different circumstances. Consider the circumstances surrounding the massacres of Jews during the Black Death (1348–1349). Local citizens were trying to cope with their fear, sense of helplessness, and grief over the loss of loved ones. They may have noted that while many Jews also died from the plague, fewer Jews succumbed to the plague. The local citizens might have asked if Jewish religious practices – kosher food preparation, personal and family hygiene, household cleanliness, and removal of all rodents from the home – provided protection against the plague. They might have noted that residing in ghettos afforded Jews limited contact with the general population and provided protection against rat infestation. Had they asked, and drew cause-and-effect conclusions, they might have adopted similar practices. Instead, they chose to believe that the Jews caused the Black Death by poisoning the wells from which only Christians drank. Why did they insist on Jewish malevolence?

Similarly the depressed economy in Germany and the smoldering sense of defeat and betrayal may have brought about the rise to power of the Nazi party. These circumstances do not explain why the Nazis (and citizens within Germany and within every country they conquered) hated Jews. Nor do they explain why they allocated enormous resources in manpower and transportation to expedite the final solution, at a time when these resources were indispensable to the conduct of the War and to the defense of Germany. It would appear that success in the War against the Jews was more important than success in the defense of the Fatherland.

Does Something About Jews Trigger Hatred of Jews?

If hatred of Jews is universal and unique, it would appear that some abiding distinctive features of the Jewish people over the past 2,500 years must be considered as relevant to Antisemitism, even if today many,

if not most Jews in Western countries do not exhibit these features. More important, historically the distinctive features discussed below were the norm for Jewish communities in Europe, Africa, and Asia, and were a basis for the climate that bred hatred of Jews then and continues to do so now.

Some Evidence-Based Selective, Universal Causes of Antisemitism

Religious Features of Jewish Monotheism

The three pillars of Judaism – moral monotheism, life style, and nationhood – have been perceived as an affront to others from time immemorial. The Jewish belief in one God insulted and infuriated those people who believed in many Gods. So-called pagans (e.g., Greeks, Romans, and all who adopted a Hellenist way of life) were tolerant in religious matters. Others would honor your Gods, your idols, and your religious practices if you would reciprocate by honoring theirs. In addition, the Greek and Roman Gods were themselves poor examples of moral behavior. They could commit incest and adultery without guilt or remorse. In effect, they were children with the magical powers of superheroes and were lacking in respect for law, order, human equality, and the consequences of their immoral behavior. By contrast, the Jewish God was a moral God. The Jewish God presumed to interfere with one's life, wishes, and behaviors. This God proclaimed a series of do's and don'ts, enshrined them in the Ten Commandments, and honored the interpretations and implications prepared over time by learned Jewish scholars and leaders. God punished those who transgressed from these commandments and honored those who abided by them.

While all monotheistic religions, however – whether Jewish, Christians, or Moslem – are by their basic assumptions intolerant of the belief in many Gods, the Jews were the first to arrive on the scene and to bear the brunt of pagan antagonism. Moreover, Judaism as the first of the monotheistic religions was not only a threat to the pagan religions, but was an even more dangerous threat to the great monotheistic religions that followed. The hostility of Christianity and Islam to one another and their shared animosity toward Judaism are well known, but the theological

and historical basis for their hatred of Judaism and the Jews are not always understood and are discussed briefly below.

There were too many things common to Judaism and Christianity for the latter to ignore them. Christianity was originally a sect within Judaism and when it broke away, Christianity had to deal with these features. Jesus Christ was a Jew, a pious one at that, and a member of the branch within Judaism that generated Rabbinic law and the Rabbinic way to live an authentic Jewish life. All of Christ's original disciples who dined with him at the last supper, a traditional Passover meal, were Jews. The Church fathers achieved theological integrity and consistency by breaking these connections and by delegitimizing Judaism. First, Jesus Christ was not in essence Jewish or even human for that matter. He was the son of God. He died on the Cross and joined God the Father as part of the Holy Trinity. On the other hand, as a descendent through his earthly father, he was in the messianic line from the House of David. These were beliefs that traditional Jewish theology could never accept, and their early rejection of Christianity created still other problems.

The Chosen People

In Jewish theology, the Jews are declared to be God's chosen people. The Bible clearly states that God has chosen the Jewish people to receive the Torah (the Holy Book of Books in the well-stocked Jewish theological library). Jews were commanded to study and practice its commandments, to transmit these laws and the ethical principles upon which most are based to their children, to spread the belief in a single moral God throughout the world, and to make the world better and fit for God's kingdom. Maimonides, the greatest religious authority of the Middle Ages, confirmed this interpretation and indicated that being chosen did not mean being better than others, but rather being chosen to accept awesome responsibilities that were not incumbent on others. Maimonides stated that if non-Jews observe the seven laws of Noah, they are righteous and will enjoy the blessings of this life and life in the world to come. The laws attributed to the biblical overlap with the Ten Commandments in Jewish scripture and include prohibitions against idol worship, murder, theft, sexual immorality, blasphemy, causing undue pain to animals killed for human consumption,

and the positive commandment to establish courts of law.

There are strong theological reasons to believe that the Jewish claim that they were chosen by God contributed to the justification of persecution of Jews thereafter.

Christian leaders declared that Israel had surrendered its status as the chosen people by committing a heinous crime, the killing of Christ. As a direct consequence, the Temple was destroyed, thousands of Jews were killed by Roman soldiers, and the survivors were expelled from the land of Israel. This series of events confirmed that God had withdrawn His Grace from the Jews and bestowed it on the new Israel, the Christian Church and its followers.

Islam had other theological problems with Jewish theology and the Jewish people. The two religions had a common progenitor, Abraham, with Ishmael as the progenitor of the Arab people and Isaac of the Jewish people. In Islamic theology, Ishmael was the favored son and not Isaac, while Abraham, Isaac, Jacob, Moses, David, and the other Jewish prophets were holy men and prophets, but Mohammed himself was the last and the greatest of the prophets. According to Islam, Allah had a special positive relationship with the Jewish people, the Jewish homeland, and their beloved Jerusalem, but when the Jews transgressed His laws, their favored relationship to Allah ended and they became a despicable and despised people. Moreover, Islam was an expanding and conquering religion that first offered Jews and Christians alike the choice of conversion to Islam or death, and then became more tolerant and designated all non-Moslems as second class citizens who were forbidden from flaunting their own religion or community and were required to pay special taxes and suffer forms of social humiliation. Many of these discriminatory practices were operating and sporadic massacres of Jews took place well into the twentieth century until Jews emigrated from Moslem countries after the establishment of the State of Israel.

The Distinctive Features of Jewish Life Style

The Jewish life style has rules about what can be eaten and what cannot be eaten and under what circumstances can kosher animals be slaughtered. The rules effectively prevent Jews from accepting the invitation to

dine with others. It prohibits intermarriage unless the non-Jew converts to Judaism and observes Jewish law scrupulously, including circumcision for male converts. Praying three times a day and observing the Sabbath and the other holy days are mandatory and require the presence of ten religiously observant men; consequently, even when orthodox Jews are free to reside wherever they want, they prefer to live in Jewish communities and walking distance from a synagogue. Jewish law places special emphasis on the Sabbath as a day of rest, religious study, and spiritual assessment. Moreover, the Jewish way of life, while clearly patriarchal, placed limits on the man's authority in the home, in matters of marriage and divorce, and in custodial authority over minors following divorce that the other monotheistic religions did not accept until recent times if at all. Biblical law protected slaves against the baser appetites and behaviors of their masters and it prohibited rape during war. The many strange aspects of this way of life were not conducive to friendly relations with their non-Jewish neighbors and were open to hostile interpretation.

Distinctive Features of Jewish National Identity

The third issue, Jewish nationhood, raises the use of dual loyalty and placing loyalty to Judaism and the Jewish homeland above their loyalty to the country in which they are residing. Jewish theology regards the Holy Land, Jerusalem, Hebron, and other sites as part of the Jewish heritage. When Jews pray, they turn in the direction of Jerusalem and recite prayers in which references to Jerusalem are a dominant motif. The problem of dual loyalty only arose when the nation states of Europe expanded the rights of citizens residing within their borders and had to decide what to do with the Jews.

In the United States, some aspects of the separation of Church and State permitted Jewish and latter Catholic immigrants to enjoy the rights of the Protestant founders. In France, Jews were offered an interesting choice: To receive emancipation as Frenchmen and to enjoy the rights and privileges of other Frenchmen. Jews in 1789 were required to abandon the national aspect of their Jewish identity; as a nation, they would receive nothing. The logic was simple: There cannot be one nation within another nation. Many Jews in France and Germany accepted this challenge. They modified

Judaism by downplaying or eliminating altogether the categorical implications of Jewish nationalism from Jewish prayer and ritual. They became, for example, Germans of Mosaic persuasion, and adapted their religious services to the style of their Christian neighbors.

Proliferation of Racial Theories and the Jewish Race

The sources for the racist theories that dominated Western thought were many. To cite a few, Spain found it necessary to create social status based on race, with pure blooded Spanish people at the top; Jews, Moslems (Moors), and mixed breeds at the bottom; and in some instances conversos were in the middle. These were Jews who had converted to Catholicism, and were now in the upper ranks of the clergy, the merchants, and other members of the educated classes. Spain passed the statute of (*pureza de sangre* or purity of the blood) in the sixteenth century. The logic was that even when Jews became devout Catholics, there was something morally inferior in the Jewish racial character (Laqueur 2006, p. 92).

When racial theory emerged in the late nineteenth century in Western Europe, it was speculative at best and self-serving at worst. Its proponents came from the fields of economics, biblical and oriental languages, historian and philosophers and their camp followers. The inferior traits of Jews were the preferred target because they lived and even prospered in Western society and identifying their racial character was more consequential than that of the black, brown, and yellow races that were regarded by all Europeans and also by North Americans as inferior races. Racial theory became a convenient, effective way to incite the passions of voters and members of growing political, ethnic, or cultural movements. Once it became established in people's mind that Jews were a race, it was not difficult to generalize from a few Jews to all Jews and to place in the same camp capitalists in the West, communists in the East, and radicals of any persuasion who challenged the existing order if they were carriers of Jewish blood and its consequent racial impurity. There was now fertile ground to promulgate ZOG (Zionist Occupation Government), the conspiracy theory that Jews throughout the world, regardless of their diverse religious identity from atheist to devout, wish to control the world by establishing puppet

governments in their respective countries and are becoming successful in doing so.

Disproportionate Representation of Jews in Selected Occupations

The number of Jews or people of mostly Jewish ancestry who were recipient of the Nobel Prize was 181 accounting for 22% of all individual recipients worldwide between 1901 and 2010; in sheer numbers Jews constitute a mere 0.2% of the world's population. Higher percentages were noted in recipients who were citizens of the United States. It is not difficult to show that in the United States, the number of politicians in Washington, physicians in the hospitals, lawyers in the courts, students in the prestigious universities all exceed 2, the percentage of Jews in the country. What is the explanation?

- (a) The first is the extent of literacy among Jews for over 2,000 years. Simon ben Shetach, who was active in public affairs during the rule of the Maccabean kings in the century before the Common Era, founded public schools or yeshivot in the larger cities of Judea to be funded by the respective communities and to be entrusted with instructing young boys in the Holy Scriptures as well as in the traditional Oral Law; some 80 years later Joshua ben Gemala formalized community responsibility and educational regulations to ensure that all Jewish males were literate in Hebrew (Greenberg 1966). As a consequence, Jews literate in Hebrew found it easier to read and write other languages long before literacy became common in Europe, Africa, or Asia. Jews had an enormous advantage when they were permitted to enter the fields of international commerce, regional financial affairs and businesses, or served in positions of authority under the King. The view that Jews engaged in banking out of avarice ignores several realities: There were successful Christian and Moslem men with the requisite abilities to serve as bankers and many did so, despite the prohibition against usury. Similarly there was a large supply of qualified Jewish bankers and where permitted to serve in this capacity could be expected to be loyal to their employer whose protection was essential for their livelihood and their very lives.

- (b) Jewish success in recent times was due in part to their international residence. Jews resided in many different countries, and were exposed to the scientific, literary, academic, and occupational opportunities available to them. Had they resided in a single country, especially one lacking the intellectual and cultural substratum necessary for achieving success in fields recognized by the Nobel Prize Committees, there could have been few, if any, Noble Prize recipients of Jewish ancestry.
- (c) A relatively stable family structure existed among Jews until recent times. The relatively low rates of alcoholism, divorce or desertion, and family violence were favorable for offspring acquiring the abilities to enter the universities and the free professions.
- (d) A special aspect of the phenomenon of assortative mating was a contributing factor. It was common practice in Europe, Africa, and Asia for the upper class to marry with families of similar status. It is common practice today for people of similar social status and education to travel in the same circles, to meet and to marry (Argyle 1992, pp. 194–223). This was common practice among Jews as well, but social class was based not only on wealth or renowned ancestry, but also on literacy of a particular kind, the ability to read, comprehend, and acquire the intricate reasoning associated with the study of Talmud, the vast compendium of what has been called the Jewish Oral Law. This cognitive talent became a basis for assessing the status of a potential bridegroom, regardless of his humble origins. A young Jew, with special gifts in his Jewish studies would be matched with the daughter of a great Jewish scholar or the daughter of a successful businessman. This phenomenon meant that wherever this talent was found anywhere in Jewish society, it was identified, honored, and matched in matrimony. This phenomenon over centuries is calculated to produce extremely talented animals or humans, depending on the trait that is rewarded. It is not surprising that many secular Jews came from a lineage of Jewish scholars that stretches back over centuries. One optimistic, democratic implication of these explanations is that making opportunity in all fields available to the youth in democratic countries

permits outstanding individuals to come from any ethnic (or so-called racial) group and to achieve outstanding success. Asian students, for example, born and educated in the United States as well as Asian students who immigrated are accumulating an impressive record and constitute a large percentage of students in the most prestigious universities.

Disproportionate Representation of Revolutionaries of Jewish Ancestry in Attacks on the Established Order

Alienation is a worldwide phenomenon. Some people become alienated from their families, ethnic groups, religious identification, and nation-states. Some of the more prominent radical Jews who challenged the established order by word, pen, demonstration, or military action include Karl Marx, Leon Trotsky, and the majority of the original Soviet politburo (Russia); Bela Kun (Hungary); Rosa Luxemburg (Germany); Emma Goldman, Jerry Rubin, Abbie Hoffman, Herbert Marcuse, and Noam Chomsky (the United States), and countless others. Other Jews whose egregious actions threatened existing institutions would include Michael Milkin, Bernard Madoff, and other financiers. While very few Jews are radicals and threaten the established order in any society, the number of Jews among the radicals is disproportionately high (Praeger and Telushkin 1883).

The prominent and visible role played by Jews who wished to abolish all religions and all nation-states provided evidence for the radical right and the radical left alike of a worldwide Jewish conspiracy to control the world. The non-Jewish radical right wished to sustain the existing order and its institutions and they perceived the Jews as threatening their cherished beliefs and traditions. The radical left wished to destroy the established order and targeted Jews as an immediate, vulnerable threat to their plans (Jewish capitalists, Jews who defended and were loyal to their country, moderate Jews who advocated changing existing society, but not destroying it). The non-Jewish Jews, who espoused the goals of the radical left and were admitted to its rank and file and even to its leadership, abhorred their own Jewish stain and wished to expunge it everywhere. They hated all religions, but especially Judaism, and all nation-states, but especially the Jewish nation-state.

The prominence of Jews in revolutionary movements provided the match for igniting the devastating forest fires of hatred of Jews in times of severe drought.

The Proposed Psychological Causes of Antisemitism

One of the earliest books on Antisemitism in the twentieth century came from James Parkes (1946). In chapter, *The Psychology and Sociology of Antisemitism*, he highlights the worldwide antipathy of majorities to discriminate against the minorities that dwell within their borders (e.g., the Roma in Europe, the Chinese in Thailand, Beduins and Christians in Arab countries, Hindus in Sri Lanka, the Nisei on the West Coast of the United States, the aborigines people of Japan, Australia and elsewhere). He strongly identified with Jewish suffering and supported Jewish claims for a national homeland in Palestine over Palestinian counter claims as answering the greater need of the Jews and inflicting the lesser hardship on the Palestinians. He indicted antisemitism as an enemy of the people and gave this title to his classic book on the topic (Parkes 1946). He suggested that this enemy could be fought, not by making antisemitic propaganda illegal, but by pressuring the Christian churches to rectify their biased presentation of Judaism to their congregants, and by bringing together representatives of the Jewish and the Christian communities.

The most widely read book on the psychological causes of antisemitism was written by an existentialist philosopher (Sartre 1960) in the aftermath of World War II. He argues that the Antisemite is the epitome of the frightened man who fears reason, consciousness, freedom, responsibility, and any change in society and the world. Jews become the epitome of evil against whom he vents his frustrations, instinctive passions, and his conviction that, at long last, he has found somebody whom he regards as somehow inferior to him. The choice of the Jew as the scapegoat is an incidental, historical accident.

- The Jew is the Antisemite's invention. . .the Jew is one whom other men consider a Jew. . .It is the Antisemite that makes the Jew. . .It is neither their (Jewish) past, their religion nor their soil (Israel) that unites them. The sole tie that binds them is the hostility and disdain of the societies which surround them. (pp. 13, 67. 91)

Presumably Antisemitism and the Jews themselves would disappear when Jews and non-Jews chose to espouse an existential mode of being. The reader might well argue both with Sartre's depiction of the Antisemite and of Judaism and the Jews.

A classic text by Hannah Arendt (1973) argued that Antisemitism in the late nineteenth century and in the half century that followed was due to the loss of essential economic opportunities due to Jews who were wealthy without working. In effect, she, like Sartre, ignored 2,000 years of the historical roots and offshoots of Antisemitism and focused solely on economic injustice, specifically as practiced by some Jews. This was a major concern for a doctrinaire socialist who considered religion and nationalism as irrelevant anachronisms. One wonders what she would say today (a) about the outstanding contributions by Jews to society, and (b) about the rise of militant fundamentalism in Islam, widespread attack on the legitimacy of the Jewish State to exist, and the resurgence of Antisemitism in many parts of the world.

There is a voluminous important literature on Antisemitism by sociologists, anthropologists, and other disciplines, such as biologists and social scientists. This section examines primarily the theories and research of psychologists.

Psychology Prior to World War II

One theory that focuses specifically on Antisemitism is that of Freudian psychoanalysis. The book entitled *Moses and Monotheism* was published in England after the rise of Hitler's Third Reich and the explicit threat it posed to the Jewish people (1939). In his last publication, Freud applies the classic concepts of levels of consciousness, the desire to kill the father, and collective neurotic manifestations of the defense mechanisms (e.g., repression, repetition-compulsion, projection) to assert that religion in general is a collective neurosis and that hatred of Jews stems from their preeminent role in originating monotheism. He argues that the promulgation of monotheism by Jews elicited two phenomena: (a) divinely imposed instinctual renunciation and with it the experiences of intrapsychic sin, guilt, remorse, confession of sin, and the projection of these experiences on the Jews; (b) the Jewish belief that the Jews were "the chosen people" and with it the rejection of this claim, the insistence that God cursed the Jews

and mandated their permanent suffering, their racial inferiority, and under some circumstances, their extermination. Freud's psychoanalytic theories are engrained in our culture, but the proposal that Antisemitism is a universal phenomenon has received less acceptance, and the mythological underpinning of Antisemitism has received even less.

Racial generalizations by psychologists about intellectual and personal-social traits were common and fairly unchallenged in the latter half of the nineteenth century and the first half of the twentieth century. These phenomena were prominent in Germany well before Hitler's rise to power and became policy in German universities and professional psychological organizations from which Jews were subsequently expelled. Some German psychologists, such as Koffka and especially Kohler, who shared the racial prejudices of the upper middle class toward Jews, made consistent efforts to help Jewish colleagues throughout this period, and wholly rejected legally enforced discrimination and the final solution that followed (Mandler 2002).

Quotas designed to reduce the number of Jewish students admitted to American universities and schools were common and gradually disappeared by 1950 following the temporal juxtaposition of Antisemitism and the Holocaust. During this period, men of the stature of Saul Rosensweig, Seymour Sarason, and David Shakow had to make their early important contributions to psychology when employed in non-university positions. Jewish émigrés who fled Nazi Germany, like David Rapaport and Heinz Werner, found themselves in the same situation when they arrived in the United States (Harris 2009).

The Antisemitic scandal that erupted in 1944 put an official end to this practice in Clinical Psychology even as the new profession became professionally consolidated after World War II. When Frederick Thorne, the founding editor of the *Journal of Clinical Psychology*, announced that public acceptance of the new profession would be jeopardized if Jews were overrepresented in its ranks (Thorne 1945), he stated:

- While disclaiming racial intolerance, it nevertheless seems unwise to allow any one group (the code name in this scandal for the Jews) to dominate or take over any clinical specialty, as has occurred in several instances. The importance of Clinical Psychology is

so great for the total population that the profession should not be *exploited* in the interest of any one group. (p. 13, italics added)

Psychology After World War II

American psychology adopted a strong position in advocacy, practice, and research in the years that followed. It rejected the use of quota for any minority and it made vigorous efforts to ensure that racial discrimination was not practiced. It also initiated a large-scale program of theoretical and empirical research on ethnic discrimination and conflict in the national and international arenas. The earliest theories of Antisemitism were proposed by Allport (1954) and Adorno et al. (1950). Both wrote classic texts that made no distinction between prejudice against Jews and prejudice against other targets, and both asserted that prejudiced people were abnormal. Allport was optimistic that human nature would ultimately reject violence and war in favor of living in peace with others, and proposed a contact hypothesis that under certain conditions (equal status between the groups in conflict, common goals, intergroup cooperation, and the support of authorities, law, and/or custom) reduces prejudice (Pettigrew and Tropp 2006).

Adorno and his colleagues labeled this abnormality "the authoritarian personality." This kind of person is characterized as rigid and close-minded, obeying authority figures without question and showing contempt toward groups they consider inferior to them. More recent research indicates the authoritarian personality prefers simplified explanations for complex phenomena, is more dogmatic, intolerant of ambiguity, has a strong need for order, structure, and cognitive closure, and is lacking in integrative complexity (Jost 2006; Kruglanski 2004). By implication, these overlapping concepts – conservative, authoritarian, and right-wing – characterize an entire segment of the population that is potentially fascist and Antisemitic.

Numerous theories about the nuances of interethnic conflict have been confirmed: Conflict appears intractable when a given group feels threatened by another (Pettigrew 2003); or when a group has little intergroup contact, but high pre-existing prejudice and high intergroup anxiety (Blair et al. 2003). These theories tend to ignore two relevant factors in ethnic hatred in general and in hatred of the Jews in particular: the

historical and current contexts during exacerbation of conflict, and the role of malevolent political and religious leadership that incite pre-existing prejudice in otherwise normal people against convenient scapegoats and ultimately escalate prejudice into violence, war, and mass murder. An educational approach proposed by Parkes (1946) is that hatred of the Jews may satisfy aggressive instinctual gratifications and reassuring convictions of one's self-esteem and the esteem bestowed by others (compared with a despised race).

Conclusions

Psychologists are of their own time and possess their own unique personality traits. They are students of the nature of human nature, and essentially optimistic that the world is improvable. They are also theorists who base their theories on fashionable and wisely accepted assumptions and scientists who select topics for research, use research designs, and make recommendations about peace-promoting policies.

Some regard hatred of the Jews as one instance among many of prejudice due to differences in religion, socioeconomic status, skin color, and presumed racial differences. Many psychologists wish to downplay the extent of Antisemitism over the centuries because it implies continued hostility and war. Others, chiefly Jews, are concerned about their personal security. Finally, still others regard hatred of Jews as an archetype, in Jung's terminology. It is a ubiquitous, complex phenomenon that will not disappear on its own.

The violent manifestations of Antisemitism may be reduced by social engineering and creative education. Its more subtle manifestations require the concerted effort of politicians, social scientists, and psychologists to acknowledge that we are dealing with a destructive phenomenon within society.

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Psychology and Religion

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Introduction

Appraising the relationships between Psychology and religion is a complex task, and we need first to identify

the various kinds of problems giving rise to this. Most fundamentally, the very phrase “Psychology and religion” is a misleading oversimplification, these clearly not referring to two unitary, mutually independent, camps, let alone camps of the same logical status. On the Psychology side, its sheer internal diversity in subject matters, methods, and goals renders any general statement about its relationship to religion impossible. On the religion side, not only is its internal diversity in some respects even greater than Psychology’s, but it is a logically different kind of phenomenon. While the status of Psychology is not unproblematic, at least it is unambiguously an academic discipline engaged in knowledge creation and application, and most academic experimental psychologists accept and assert that it is some kind of natural science. Religion, by contrast, is vastly broader, knowledge creation being, ironically, one of the few things with which it is not centrally concerned. Religions supply broad frameworks of meaning within which followers can live their lives. They are cosmic in range, a view of humanity’s relationship to the cosmos being vital if they are to provide such a framework. In a nutshell, being a psychologist is a profession or career, being a religious believer is a way of life. It is necessary to stress that religions are not simply comprised of sets of empirical beliefs, but encompass major rituals which structure social life, provide sources of solace, and facilitate artistic creativity, among much else. What religion *does* share with Psychology is that both propose views, theories, or images of human nature in general and human individuality, or “personality,” in particular. From this it would appear that perhaps all one can address are relationships between specific religions, religious denominations, or religious thinkers and some equally specific fields of Psychology, or individual psychologists.

A second problem is that the kinds of relationship between the two can also be of several different varieties. To list briefly, (a) psychologists may be interested in religion as a part of their own subject matter, human behavior, and attempt to “explain” it (hence the subdiscipline “Psychology of Religion”); (b) individual psychologists’ attitudes to religion may, if sufficiently strong (as either believers or opponents), affect both their modes of theorizing, their fields of specialization, and to some extent even their methods; (c) some in each camp see themselves engaged in a conflict or contest with

the other, their work will thus reflect this; (d) the role and character of religion in its host societies can also determine the kind of Psychology practised therein, indeed this is inevitable at a deeper cultural level.

A third difficulty is that, in the light of their overlapping concerns with human nature and personality, the boundary between Psychological and religious texts can become blurred. This is especially evident in some theological works (e.g., Paul Tillich’s), while in the case of psychotherapy and counselling, the two occasionally verge on outright fusion.

Fourthly, Psychology being a western cultural product, “religion” is, for our purposes, effectively synonymous with Christianity, along with a sometimes discernible Judaist strand. And even within Christianity, we are primarily concerned with the mainstream west European Protestant and Roman Catholic traditions, its other branches being variously hostile or indifferent to Psychology. This, we will see, raises some problems regarding how Psychology can relate to non-European religions, particularly Islam, Hinduism, and Buddhism.

A final issue is that in addressing the topic we are somewhat hampered by its longstanding neglect by historians from both directions. Only relatively recently has this begun to be rectified. The most notable current workers in the field are US historian of Psychology and psychotherapist Hendrika Vande Kemp and the Catholic psychologist Robert Kugelmann ([in press](#)), plus historians of Psychology of Religion David M. Wulff (1997), Netherlands-based scholar Jakob Belzen (2000), and US historian Robert C. Fuller (2006). J.M. Nelson (2009) is a further very recent addition. Even so, the focus of these writers has often primarily been on the subdiscipline Psychology of Religion rather than the broader topic concerning us here. There are, however, a number of works on individual psychologists in which the part played by religion in their professional work and careers has been explored. The cause of this relative neglect is, to oversimplify, a combination of two factors. Prior to c.1980 historians of Psychology were primarily concerned with chronicling the discipline’s emergence as a natural science, often in a somewhat celebratory fashion. This reflected the perennial anxiety of academic and experimental psychologists to locate themselves within modern natural science, or at the very least as a branch of secular scholarship. Any religious dimension thus

tended to be air-brushed out, or at best seen as of only incidental interest, irrelevant to the main story. Post-1980 more critically oriented historians, although concerned with contextualizing events (as had happened earlier in History of Science), also largely ignored religion. Quite why appears to be a mixture of personal animosity toward, or lack of interest in, religion and the fact that more immediate issues related to, e.g., Psychology's roles in social governance, its treatment of women and minorities, and its "individualist" bias in orientation were higher on their agendas. Beneath these lay a fairly uncritical acceptance of what may be termed the "secularization" plot of twentieth century history. In this image, Psychology was a proactive secular project which simply rolled back the social significance of religion as an authority on psychological matters. The cliché of the psychologist replacing the minister or priest tended to be accepted without much demur. Given religion's resurgence from the early 1990s, this already sounds somewhat dated.

With these preliminary observations out of the way, we may turn to a number of specific aspects of the topic which illuminate how profound the part played by religion in the history of Psychology has actually been. But from what has been said, a perspicuous general answer to the question "what is and has been the relationship between Psychology and Religion?" is clearly impossible.

Psychology's Origins

The "heroic" image of Psychology's origins as a "natural science" in the late nineteenth century is of it emerging first in Germany in the work of Gustav Fechner (in his 1860 *Psychophysics* wherein he described three basic experimental designs) and Wilhelm Wundt, credited with establishing the first Psychology laboratory at Leipzig in 1879. Hot on the Germans' heels the post-1859 rise of Darwinian evolutionary theory, fervently backed by Herbert Spencer and Francis Galton, then provided an integrating theoretical framework in which a variety of separate disciplines concerned with aspects of human and animal behavior could be seen as strands within the overarching project of creating a scientific Psychology. By the late 1880s, the canonical US pioneers were getting into their stride, and forging what came to be termed the "New Psychology" (a term subsequently used at

various times in rather different contexts). Meanwhile, other European national traditions of Psychology were rapidly becoming established. Religion, as already mentioned, barely figures in this received story.

Had Psychology represented only a further advance in the irresistible progress of the natural sciences, as this account rather implies, we may then wonder why it was not greeted with fervent religious opposition, especially as it was apparently concerned with issues so centrally shared with religion. It is still often claimed that the two camps are antagonistic. Yet while some in each camp have undoubtedly seen the other as an enemy, any "warfare" literature has been surprisingly sparse until very recently. There is clearly then something missing from the "heroic" "celebratory" version.

Closer investigation soon brings to light some important reasons for the lack of confrontation during Psychology's pre-1914 founding phases. As Hendrika Vande Kemp has been especially prominent in bring to light, the religious had no major grounds for serious apprehension that Psychology would pose the kind of threat which, say, Geology, Astronomy, and then evolutionary biology, had done to the Biblical physical cosmology. They had good reasons for assuming that their own "Psychological" expertise would be able to withstand, and indeed contribute to, the new discipline. Whereas there were no "Biblical Geology" or "Biblical Astronomy" in place when these disciplines emerged, there were three major, longstanding, strands of Christian "Religious Psychology."

Within Roman Catholicism, the complex and sophisticated account of human nature elaborated by Thomas Aquinas had created a tradition of Scholastic "Thomist" Psychology-cum-Philosophy. The longstanding "Rationalist" strand in European philosophy had in many respects developed from this from the seventeenth century onward, while theologically orthodox Thomism continued to reign in Catholic universities, even if largely intellectually moribund by the nineteenth century. Concerned with the marginalization of Catholicism within the sciences, in 1879 (coincidentally with Wundt's Leipzig laboratory being founded), Pope Leo XII issued the encyclical *Aerterni Patris* reasserting the authority of Thomist Scholasticism as the church's official philosophy and the need to reinvigorate this tradition. This remained the Vatican's position until the Second Vatican Council (1962–1965).

His challenge was most effectively taken up by the Belgian, Father (later Cardinal) Desiré Mercier, who now sought to create a “Neoscholasticism” in which the legitimacy of natural science could be maintained without challenging core religious doctrine. One key feature of this was a differentiation between a “Rational” and an “Empirical” Psychology. The former adhered to Aquinas’s model of the structure of the human mind and soul, arrived at by purely logical rational analysis. The latter however was free to investigate the empirical facts of human behavior and experience in a natural scientific fashion. Hence it was that Mercier founded the first Belgian Psychology laboratory at the University of Louvain in 1891, beating the British by 6 years. The substantial contribution of Catholic psychologists, particularly a US-based Neoscholastic School, into the mid-twentieth century (but dissipating after the Second Vatican Council) was thoroughly reviewed in Misiak and Staudt (1954). Ironically, this invaluable work played into the conventional story by being pitched (as I read it) toward reassuring US psychologists that they had nothing to worry about since only the “Rational” Psychology aspect had a religious character, Catholic psychologists being able to undertake “empirical” Psychology in a way indistinguishable from that of anybody else, religious or not. In fact, the book’s contents rather subvert this claim since it is clear that their religious faith had fairly profound effects on the kinds of Psychology Catholic psychologists produced, while the very distinction itself was a Thomist one. More recently, Robert Kugelmann (*op. cit.*) has been exploring the broader picture of Catholicism’s engagements with Psychology and psychotherapy, clarifying the complex internal politics in which Catholic psychologists became engaged in order to maintain their position against the more fiercely antimodernist factions within the church itself, particularly after Pope Pius X’s 1907 encyclical *Pascendi Dominici Gregis* “on the Doctrine of the Modernists” and Pope Benedict XV’s issuing of the *Code of Canon Law* (1917) in both of which modernism was wholeheartedly condemned.

A second, less prominent but nonetheless covertly influential strand was “Biblical Psychology.” This sought to identify the “Psychological” model or image of human nature and its composition implicit in the Biblical text. The origins of this project are somewhat

hazy, Franz Delitsch (1867), one of its leading exponents, tracing it as far back as some theological writings of the Renaissance anatomist and theologian Bartholinus. In the early nineteenth century, the method used centrally involved Hebrew linguistic scholarship, the American George Bush, author of *Scriptural Psychology* (1845) being a Professor of Hebrew at New York University. What emerged was a “tripartite” model in which the three components were the Soul, the Spirit, and (in Delitsch) the “I” or “Ego.” The first two were in essence, respectively, external and internal aspects of the same thing, while the I/Ego was the most profound center of our being (clearly a different usage of the term Ego to that which became common in the twentieth century). This may be read as in some respects preparing the ground for later Psychological divisions of levels of consciousness. It was additionally significant just for the simple reason that it helped put the term “Psychology” into popular circulation.

Third, and ultimately most influential in anglophone cultures, was the Protestant tradition known in the United States as “Mental and Moral Philosophy.” Rooted in the pious Scottish “realist” or “common sense” philosophical tradition of Thomas Reid and Dugald Stewart, this had been eagerly adopted in many US universities and colleges, particularly after the Scottish emigrant minister John Witherspoon’s appointment as President of Princeton University (then the College of New Jersey) in 1768. This served as a counterweight against student revolutionary radicalism during and after the French revolution, and also against the reductionist and materialist tendencies of British associationist philosophy (exemplified in David Hume). It quickly became routine for university and college presidents to teach mandatory courses in Mental and Moral Philosophy in which they sought to demonstrate that philosophical and, increasingly, scientific study of human nature was consistent with and could only strengthen or rationally authenticate Protestant religious belief (usually, if not always, of a Presbyterian Calvinist hue). Of the very numerous authors of textbooks and treatises of this kind, we should note Thomas Upham, Noah Porter, and, another Scottish Princeton President, James McCosh. Porter’s *Human Intellect* (1868) was a remarkably thorough textbook, citing numerous contemporary

European developments (including Wundt's early work), but explicitly aimed at legitimating the need for religious faith, even while purporting to promote the development of "mental science." McCosh's work became increasingly transitional in character, if no less devout, through the 1870s and 1880s, including books on both *The Emotions* (McCosh 1880 and *Psychology: the Cognitive Powers* (1886, rev. 1894).

Almost all the first generation of US psychologists had studied Mental and Moral Philosophy as undergraduates, several being in effect protégés of Mental and Moral Philosophers (e.g., J.M. Baldwin, G.S. Hall and G.T. Ladd in relation to McCosh, the University of Wisconsin's John Bascom and Porter, respectively). What is clear is that these pioneers took much of the Mental and Moral Philosophy agenda and attitudes with them and were, institutionally, able to take over its academic niche when the tradition itself faded in the 1880s and 1890s. To give just one example of continuity, the claim that religious belief was the natural outcome of healthy child development, spelled out quite explicitly in Porter's *Human Intellect*, was endorsed by all three of those just cited. Even as they affected secular scientific modes of theorizing and research, many of the first two generations of American psychologists remained personally devout. William James, though not conventionally religious, was always respectful of religious belief and of course authored *The Varieties of Religious Experience* (1902), while his mature Pragmatist philosophy held the door firmly ajar for the acceptability of religious belief. The topic of the "authenticity" of religious experience has remained a contentious leitmotif ever since, often seen as the central issue, and is currently under renewed attention as a cognitivist and evolutionary Psychology approaches have entered the fray (see below). It is though too convoluted an issue, philosophically, conceptually, and empirically, to do justice here.

A covert, largely unconscious, plot may perhaps be discerned here in which, pre-1914, American liberal Protestantism saw in Psychology a route for scientific self-legitimation and "naturalization," holding out the further promise that as scientific culture globalized so might their version of Christianity as it piggy-backed, so to speak, on that culture's scientific Psychology strand. In northern mainland Europe, where liberal Protestantism was also flourishing in league with

movements for social and political reform, there was also widespread sympathy for, and interest in, Psychology. Martin Kusch (1999) has also argued that the split in German Psychology between the Wundtian "Leipzig School" and the "Würzburg School" in part reflected a difference between their respective Protestant and Catholic cultural settings.

In short then, not only did the major Christian religious denominations fail to oppose Psychology, they were actively involved in its origins and development. Only in Britain were the canonical early pioneers, Alexander Bain, Herbert Spencer, and Francis Galton, all adamant unbelievers (Fechner's own motivations were, indeed, centrally religious, if idiosyncratic). Even in Britain, however, the religious were not entirely absent; the Unitarians W.B. Carpenter (author of the highly successful textbook *Principles of Mental Physiology*, 1874, 6th ed. 1888) and his friend the theologian James Martineau (e.g., J. Martineau 1885) were of more significance than is often acknowledged, and the Society for Psychical Research signified a widespread concern with what was really a religious issue as well as pioneering research methods (as its sister American society also did), one prominent member being F.W.H. Myers, first to cite Freud in English (F.W.H. Myers 1893), co-organizer and secretary of the 1892 International Congress of Psychology in London, and author of *Human Personality and Its Survival of Bodily Death* (1903).

Aside from their existing religious beliefs, attitudes, and assumptions, a further factor mitigated against psychologists opposing religion. Every scientific discipline needs an applied market if it is to thrive. For the early psychologists, this lay in the contributions they could make to managing the psychological problems facing urbanized industrial societies. More specifically, there was, by the 1890s, a widespread demand in northern Europe, Britain, and north America for professional expertise in the fields of (a) education and child rearing, (b) mental distress, (c) crime, (d) industrial productivity and relations. Religion had long been involved in the first three of these. Schools were widely run and managed by various religious charities and organizations, while pastoral care of the mentally distressed and "feeble minded" was one of religion's longstanding charitable tasks, as was rehabilitation of the criminal. Taking the first, as demonstrating the

point most effectively, we may briefly consider the British situation.

The British Child Study Association (B.C.S.A.) was founded in 1894, supported by James Sully (Professor of Psychology at University College, London) who became its first President. Two years later, a Childhood Society (CS) followed, originating in a Committee on the Mental and Physical Condition of Children which had begun work in 1888 and in 1895 published its *Report on the Scientific Study of the Mental and Physical Conditions of Childhood* (F. Warner 1895) claiming to have studied 100,000 children between 1888 and 1894. In both of these we find representatives of the Christian churches playing very prominent roles. In the case of the B.C.S.A. (London Branch), a particularly prominent figure was the Methodist minister, the Rev. John Scott Lidgett, who has been described as “the greatest Methodist since John Wesley.” His involvement stemmed directly from his leading role in the Bermondsey Settlement, in London’s impoverished East End, a religious project aimed at helping children who had additional connections with Oxford Anglican Evangelicals. Other ministers identifiable as active members include Rev. T.W. Sharpe, also active in the CS, and Senior Chief Inspector in the Education Department at this time, Rev. J.C. Bevan (occasionally Chair of meetings), and Rev. W.J. Adams (who became President in 1902). As well as Sharpe, the CS founding Committee included Rev. George Bell (Headmaster of Marlborough College), Rev. J.C. Weldon (Headmaster of Harrow), and the Catholic Cardinal Vaughan (Archbishop of Westminster). The religious beliefs or sympathies of other members of these societies cannot be so easily ascertained, but inferences might be made. Even Sully himself had begun training as a nonconformist minister in his early years.

As this indicates, religion was central to the cultural ambience in which British Psychology was first attempting to market its expertise beyond academia. A good case could be made that education and child rearing provided the singlemost important route by which it initially achieved this. Regarding crime, “idiocy,” and mental distress, religious figures were ubiquitous in the official and philanthropic bodies variously responsible for managing, monitoring, providing resources, and overseeing treatment as any list of witnesses before Royal Commissions and Parliamentary Committees on such matters from this period

would demonstrate. One might actually speculate how far this religious constituency acted as a brake on the “scientific” eugenicist and degenerationist lobby, but that is beyond present concerns.

So, if Psychology was to create a place for itself in the world at large, it had carefully to negotiate its relationship with religious constituencies. Conversely, to the extent that it succeeded, the religious would in turn endorse the value of Psychological perspectives on such matters. And although this is a British example, the same analysis would apply, perhaps with even greater force, to the United States and much of mainland Europe. Educational Psychology itself was substantially an earlier European creation in which religion had played a major role, being central for pious pioneers such as both the German protestant Friedrich Froebel and the Italian Antonio Rosmini Serbati (a Catholic priest) (on Froebel, see G. Richards 1992, Chap. 4). Concern with the child and education should be viewed not only as something which Psychology could use for its self-promotion, but as a very significant factor driving the actual emergence of the discipline. It was in the literature related to this, both secular and religious, that proto-Psychological ideas had been being promulgated ever since the late eighteenth century and arguably as far back as the sixteenth. Insofar as these were religious in character, they therefore played a role in Psychology’s origins.

To conclude, the rise of modern Psychology was promoted and facilitated rather than opposed or hampered by a combination of religious factors: (a) a preexisting variety of religious “Psychologies,” (b) the religious motivations behind their choice of vocation of many of its pioneers, and (c) the need to elicit the sympathy and support of religious denominations, institutions, and charities in order to market its expertise and establish a cultural niche, particularly in relation to child rearing and education, but also (d) to a lesser extent in relation to other issues such as mental distress, “idiocy” and crime which were assuming ever greater importance in northern European and north American societies.

Psychology of Religion

The most overt engagement between Psychology and religion has been the subdiscipline Psychology of Religion. The fullest review of this is D.M. Wulff’s

monumental *Psychology of Religion: Classic and Contemporary* (2nd ed. 1997). Although never a major strand, it has maintained a presence almost from the outset, albeit with very varied fortunes and sometimes on the brink of disappearing. It should be noted however that while national differences in theoretical and research styles are evident in most fields of Psychology, this is especially so in the present case. To consider the anglophone first, this originated in the United States in the 1890s with the Edwin D. Starbuck's *The Psychology of Religion* (1899) and then, having been dramatically boosted by William James's classic *Varieties of Religious Experience* (1902), rapidly expanded in a succession of works by E.S. Ames, J.B. Pratt, G.A. Coe, G.M. Stratton, and the Swiss emigré James Leuba, of which Pratt's and Leuba's (on Leuba see D.M. Wulff, 2000) have proved the most enduring. Institutionally and organizationally, its major promoter at this time was G. Stanley Hall, founder of the *American Journal of Religious Psychology and Education* (1904) which, with a slight title alteration in 1912, lasted until 1915. It was under Hall's aegis at Clark University that both Starbuck and Leuba undertook their first research, and a little later he published his two-volume *Jesus the Christ in the Light of Modern Psychology* (1917). Religion also figured in his two-volume *Adolescence* (1904). After 1920, however, this early American school began to run out of steam, and by 1933, A. Cronbach's *Psychological Bulletin* review was, in effect, announcing its demise. In truth, its agenda had never been entirely clear, and its research methods had failed to develop in the more "scientific" direction which the times were demanding of Psychology at large. In the light of the previous section, we may read the motivation of many, but not all, of its exponents as utilizing Psychology to legitimate the authenticity and value of some variety of Protestant Christianity (Leuba was a major exception, his 1922 *The Psychology of Religious Mysticism* being particularly skeptical regarding the "authenticity of religious experience" question). Even so, as well as the "authenticity of religious experience" question, they addressed a variety of issues such as the origins of religion (often from an evolutionary perspective and drawing on anthropological and comparative religion evidence), conversion phenomena, the social psychology of religious practises such as revival meetings, and the child's religious development. A few, such as Leuba,

were explicitly critical of religion in its present forms. Interestingly, in the UK Psychology of Religion never really took off, the only significant early works being R.H. Thouless's *An Introduction to the Psychology of Religion* (1923) and B.H. Streeter's strongly pro-religion *Reality. A New Correlation of Science and Religion* (1927). As we will see later, the British relationship between the two camps during this period took rather different forms.

If at a low ebb, US Psychology of Religion nonetheless continued on a rather narrower front. It now tended to concentrate on using the new attitude questionnaire techniques being developed in Social Psychology and personality research to explore religious attitudes plus both the roles and types of religious belief in the context of individual personality. One of the very first pieces of psychometric attitude research was indeed L.L. Thurstone & E.J. Chave's *The Measurement of Attitude: a Psychophysical Method and Some Experiments with a Scale for Measuring Attitudes toward the Church* (1929). In personality research, I.A.M. Nicholson (2002) has shown how the affirmation of the central importance of religion was the primary goals of G.W. Allport's co-foundation of the "Personality Theory" field in the 1930s (Allport 1937). While generally covert, this was explicitly spelled out in *The individual and his religion* (1950). Throughout the 1950s–1980s period, Psychology of Religion primarily assumed the form of a fusion of social psychological and personality research centered on psychometric techniques, with several scales being devised specifically for this purpose, most successfully the Allport-Ross Religious Orientation Scale (1967). Michael Argyle's *Religious Behaviour* (1958) was a somewhat isolated British example. We will return to the "personality" issue below. From the 1980s onward, there was a slow revival of the field as a broader project, accelerating in the late 1990s and post-2000 period. Why this was so will be considered later.

Psychology of Religion's fortunes in mainland European countries followed rather different trajectories, while the subdiscipline itself often differed somewhat in character (partly due to the more clear-cut division between Catholic and Protestant regions). One major figure was the Würzburg School-trained Estonian Karl Girgensohn, who, with the school's leader Oswald Külpe, cofounded a society for Psychology of Religion and a journal (which still survives)

Archiv für Religionspsychologie in 1914. From 1927, his follower Werner Gruehn took over directorship of the society. Girgensohn adopted a rigorous “experimental introspection” methodology in his research. This soon came to be challenged by the Zurich-based pastor Oscar Pfister’s psychoanalytic approach and the two were often at loggerheads, although common concerns eventually led to a rapprochement. Neither of these Protestant schools declined after 1930, one of Pfister’s major works appearing in 1944 (1948 in English). Religion also figured centrally in the German personality theorist Eduard Spranger’s work (see E. Spranger 1928). In the Netherlands, as J. Belzen (2000) has recently detailed, Psychology of Religion did not even manage to get off the ground until the 1950s due to religious opposition. When Carl Jung’s ideas on the nature and importance of religion rapidly acquired an ever-widening circulation during the 1930s, the nature of the issue underwent a major transformation, *Modern Man in Search of a Soul* (1933) being especially influential in this respect. (Though Jung himself was not of course an orthodox religious believer in any sense.) In Catholic countries, the presence of the strong Catholic tradition in Psychology initiated by Mercier inhibited the emergence of anything directly resembling Protestant Psychology of Religion. This did not mean religion was never addressed – one might note Henri Joly’s *The Psychology of the Saints* (1898) in France as an early example. Rather, its presence in Psychology texts would typically take the form of expounding the doctrinally orthodox neo-Thomist position. One important exception was the Italian agnostic S. De Sanctis’s *Religious Conversion: A Biopsychological Study* (1927, 1st Italian 1924).

As indicated earlier, only in the last two decades has anglophone Psychology of Religion succeeded in achieving the revival it long hankered after during the mid-twentieth century. This revival has owed no small debt to the extensive journal papers of Hendrika Vande Kemp and David M. Wulff’s magisterial work cited earlier. D. Fontana (2003) and J.M. Nelson (2009) are more recent major contributions. What might, though, be queried is whether this new Psychology of Religion is really a revival or a new project with the same name. This is for two reasons. Firstly, evolutionary psychologists and cognitive scientists have, since the late 1990s, begun turning their attention to the topic. This

generally involves applying their general theoretical frameworks to the topic as one among many others on their agendas, and, these being quite recent developments, the character of the Psychology of Religion they yield is fundamentally different from that it originally possessed. Secondly, on a different front, it has now become closely interwoven with psychotherapy and counselling, whereas initially the Psychology of Religion and religious involvement with psychotherapy represented rather distinct genres. It is to the latter we next need to turn.

Psychology, Religion, and Mental Distress

One area of common interest between Psychology and the mainstream churches has, since the outset, been the nature and management of mental distress, with Psychiatry of course being a third party in this. With “pastoral counselling” always being one of the tasks of church ministers and priests, the growth of secular ideas regarding mental illness and neurosis offered new resources for undertaking this. The earliest formal example of this in the anglophone world was probably the Boston-based Emmanuel Movement. The history of the Boston-based Emmanuel Movement, which lasted from 1906 to 1929, though was most prominent up to c.1914, has been tackled by Sanford Gifford (1998) to which I refer readers seeking a more detailed account. Three figures are primarily associated with it: the founder, medically qualified Rev. Elwood Worcester (1862–1940), psychiatrist Dr Isador H. Coriat (1875–1943), who had moved to psychoanalysis by 1914, and Dr. Samuel McComb (1864–1938) “a witty, talkative, Anglicised Irishman” (Gifford, p.60). The major account of their fairly eclectic approach, in which “suggestion” and hypnotism prominently figured, is R. Worcester, S. McComb, and I.H. Coriat (1908, 1920). It was, however, an eminent physician, Joseph H. Pratt (1872–1956), who had actually set the ball rolling in 1905 by conducting what was in effect group psychotherapy (which he termed “the class method”) with tuberculosis sufferers at the Emmanuel Church. The long-term influence of the Emmanuel Movement was to introduce the notion of medical psychotherapy to the country, including the first psychiatric outpatient clinic, and pioneering small group psychotherapy method. The extensive

development of US pastoral counselling after 1920 has been summarized down to 1970 by Vande Kemp (1984, 1986, 1996). For other overviews of the field, see W.R. Clebsch & C.R. Jaekle (1964) and H.J. Clinebell (1966). A major mid-century figure in promoting this was Seward Hiltner, author of two books and numerous journal articles, most importantly S. Hiltner (1949).

Turning to the UK, after 1918, there was a surge of religious interest in using the new psychotherapeutic approaches for pastoral counselling, especially psychoanalysis (and related schools) and various “suggestion,” “autosuggestion,” and hypnotic techniques (notably those of Emil Coué and the “New Nancy School” of hypnosis associated with Charles Baudouin, both French). (See Richards (2000a, b, 2011) for more on this and the interwar British situation in general). Young ministers who had, as padres, experienced the horrors of the Western Front and other theatres of the Great War were especially receptive to the “New Psychology,” as were many Christian doctors. In addition to selectively adopting the new psychological and psychotherapeutic concepts in their pastoral work, they also became closely involved with institutional innovation. To summarize a complex story, three figures emerged as particularly prominent in this. Hugh Crichton-Miller, whose wartime service had been in Alexandria, who founded the Tavistock Clinic in 1920; Leslie D. Weatherhead (a padre in the grim Mesopotamian campaign), a popular Methodist minister and writer who founded the City Temple Psychological Clinic in London (1936); and the academic psychologist and psychotherapist William Brown who keenly supported these projects. A number of Christian psychologists such as J.A. Hadfield and R.H. Thouless, along with psychiatrists like David Yellowlees were also involved in various capacities. The psychotherapeutic methods employed were typically, as indicated above, an eclectic blend of “suggestion,” hypnosis, and critical but sympathetic use of psychoanalytic techniques. As awareness of the differences between Jung and Freud grew, by the 1930s, Christian therapists were increasingly using a Jungian rather than Freudian theoretical framework. In the background however often lay the more traditional religious notion of “spiritual healing,” especially in Weatherhead’s case.

Other clinics established in the 1930s included the Whitefield Clinic of Pastoral Psychology and the

London Clinic for Religious Psychology. At a different level were the foundings of the Jung-oriented Guild of Pastoral Psychology (which Jung addressed at least once) in 1936 and the Marriage Guidance Council (by the Rev. Herbert Grey) in 1938, and a number of other religious societies and committees concerned with the issue. The much older Guild of Health (originally set up in 1904) also seems to have been greatly revitalized at this time.

After 1945, momentum was resumed during the late 1950s with the reopening of Weatherhead’s City Temple Clinic and Frank Lake’s foundation of the Clinical Theology Association (now the Bridge Foundation). This culminated in the 1970 opening of the Westminster Pastoral Foundation (WPF) by Methodist minister Bill Kyle, which assumed and expanded the role of Weatherhead’s clinic, which had by then closed. In 1971, Fr. Louis Mateau founded the Catholic Dymnna Institute. What is most significant is that these, and other uncited, religious psychotherapy projects provided the institutional basis for the subsequent expansion and development of professional counselling and non-Freudian psychotherapy during the 1970s and thereafter. The WPF was central in the creation of the British Association of Counselling and formally accredited training courses. While, after 1980, the field rapidly became secularized (and the Tavistock had effectively disengaged from religion during the 1930s), it is clear that the religious involvements with psychotherapy and counselling sketched here were crucial in both their institutionalization and popularization beyond metropolitan intellectual circles. This implies some adjustment to the widespread image of their current popularity being simply an after-effect of 1960s alternative culture fascination with the various “Growth Movement” therapies which mushroomed during that decade. But where did these come from? We now need to return to the US situation during the later 1940s and 1950s.

Among the leading figures in the post World War 2 “Growth Movement” were Abraham Maslow, Carl Rogers, and Rollo May. What is especially significant for our purposes is that there is a clear linkage between each of these and the New York-based Union Theological Seminary (UTS). In particular, there is a lineage from the Hassidic German philosopher Martin Buber (whose 1923 *I and Thou* was enormously influential)

into the thought of his fellow ex-Frankfurt School friend Paul Tillich and the American Reinhold Niebuhr, both eminent UTS professors at this time. All three of those just mentioned were in various ways associated with UTS at some point in their careers and were familiar with the ideas expounded by Buber, Niebuhr, and Tillich. These centered on (a) the prime importance of treating others compassionately and empathetically as fellow human beings rather than (in the therapeutic situation) simply medical “cases” and (b) on the authenticity and, indeed, necessity of what might be called “spiritual striving” for self-fulfilment, as opposed to simply the “cure” of neuroses. It may be noted that Rollo May subsequently authored a biography of Tillich (R. May 1973), while Rogers did a filmed interview with Tillich (now available on-line). An additional figure in this was Harvard-based Gordon W. Allport, a devout Episcopalian. He is, as mentioned earlier, best remembered as cofounder of the Personality Theory subdiscipline during the 1930s, but as emerges from his *The Individual and His Religion* and Nicholson’s biography (both cited earlier), he saw the achievement of mature religious belief as the culminating stage of personality development. He also regularly gave sermons in the Harvard Chapel. Since Tillich moved to Harvard in 1955 (and similarly preached there), a further linkage may be discerned. In short, while it cannot be fully elaborated here, the central “Growth Movement” founders may be seen as emerging from a specific intellectual milieu, centered on New York and Harvard, in which the underlying values of their ostensibly secular therapies were being forcefully articulated by Protestant UTS theologians. The association between the UTS and Psychology was further reinforced by its close physical proximity to Columbia University, with considerable academic traffic between them.

Contemporary psychotherapy and counselling are primarily secular in character, at least on the surface, but what is noticeable is the extent to which religious concepts of spirituality, sin, and the like have become common currency. Religious-type concerns perhaps inevitably arise in dealing with mental distress, especially when, as has happened over the last half-century, their professional treatment has become normalized beyond the traditionally conceived psychiatric mental illnesses.

Finally, one might remark that taking the religious input into account challenges the simplistic but widespread image of a historical secularization trajectory in which psychotherapists straightforwardly assumed the mantle of ministers and priests in tackling mental problems. On the contrary, their established pastoral-care role rendered them particularly sensitive to the insights offered by early twentieth century psychological ideas. Moreover, this mythical “secularization” story overlooks the extent to which psychologists themselves have often been devoutly religious and keen to collaborate with religious professionals. This point is given added force when we turn to other issues.

Religion, Education, and Child Development

The involvement of religion in educational and child-related matters did not fade out at the end of the founding phase. Given the widespread engagement of religious bodies in running and managing schools, it was to be expected that they should continue to endorse the view that belief was a normal outcome of healthy child development, and also that they would monitor and selectively adopt the new ideas on teaching methods and assessment that Educational Psychology had to offer. One area of immediate concern was, unsurprisingly, how religion should be taught. Books on this appeared, if not frequently, at least regularly, into the 1970s, while it had often figured – as its title suggests – in the *American Journal of Religious Psychology and Education*. Over 30 book titles specifically related to religious education are listed in Vande Kemp and Maloney’s 1984 bibliography for the years 1909–1964, over half being published in the United States. The British Psychological Society’s cofounder, Sophie Bryant’s 1924 *Moral and Religious Education* should be added to this list. This is undoubtedly deceptive since it does not include journal papers or pamphlets and many relevant works fell outside Vande Kemp and Maloney’s remit. Books on child care and parenting also sometimes carried Introductions or Forewords by religious figures (E.G. Braham 1936 and T.F. Metcalf 1939, being two British examples, opened, respectively, by Leslie Weatherhead and Rev. E.S. Waterhouse). One should also note that in the United States, The Religious Education Association (REA) had been founded in 1903 by William Raney Draper (and

remains active) and had launched the journal *Religious Education* (still published) in 1906 while, interestingly, the philosopher John Dewey was at one time associated with it. The REA was, more directly, involved with promoting the famous H. Hartshorne & Mark A. May “Character Education Inquiry” which produced the *Studies in the Nature of Character* (1930), still famous for its first volume *Studies in Deceit*. The affiliations of the authors of these religious educational works were variously Protestant (including evangelical Baptist), Catholic, Ecumenical (as was the REA), and, occasionally, Jewish. Mainland European religious educationists, especially in France and Germany, also published numerous works (often Catholic in commitment) during this period. One point to be remembered about the entire genre is the frequent blurring of the line between “religious” and “moral” education. The latter of course was of concern to educational psychologists generally. This topic is, however, so broad in scope and complex in detail that it cannot be further developed here.

Religious Influences in Psychological Theory

Leaving aside the explicitly Neoscholastic approaches of Catholic psychologists, such as R.E. Brennan (see R.E. Brennan 1941), religious influences on Psychological theory, as opposed to psychologists’ personal career motivations, are usually not obvious on the surface. Dig deeper however and interesting religious dimensions can emerge. J. Piaget, S. Freud, and G.W. Allport are three cases in point. These cannot be explored in depth here, but, taking them in turn: the embeddedness of Piaget’s Psychology in Swiss liberal Protestantism has been shown by F. Vidal (1988); the precise role of Judaism in framing Freud’s thought remains a matter for debate in detail, but, ever since D. Bakan’s classic and provocative study (D. Bakan 1958), it has generally been acknowledged that it *did* play a part; I.A.M. Nicholson’s biography of G.W. Allport has, as mentioned earlier, revealed the extent to which his concept of “personality” and his own personality theory were underpinned and motivated by his High Church Episcopalian (or Anglican) religious convictions (as emerges most clearly in G.W. Allport, 1950). In C.G. Jung’s thought, Psychological and religious concerns were inextricably interwoven from the outset. Although never an orthodox believer, his fascination

with symbolism and mythology, which he believed to be the profoundest products of the human “psyche,” drove him ever more deeply into engaging with religious issues at both a personal and theoretical level.

There is though a deeper level of “influence” perhaps pervading the discipline as a whole and hinted at at the outset, which is that as a product of western culture, imbued with Judæo-Christian values and attitudes, even the most secular psychologist’s thought is likely to be in some way affected by these in ways of which they are unaware. This is likely to be especially true of the United States, where secularization has never been as thorough-going as in most European countries where Psychology has flourished and where, even if church attendance saw a decline over the twentieth century, what is now being called “unchurched spirituality” remained commonplace. This “unchurched spirituality” continues to accept most of the organized Protestant churches’ moral and social values. In many respects, US Psychology has, in the main, never ceased to be guided by what the present writer has elsewhere called the “moral project” of its Mental & Moral Philosophy progenitors (G. Richards 1995). In the final analysis, it is perhaps impossible to disentangle specifically “religious” influences on psychologists’ theories or research choices from the broader role of general social, cultural, and historical factors.

Religion and Personality

One enduring component of the Psychology of Religion agenda has, as we saw, been the study and theorizing of religion’s role at the level of individual personality. Is there a “religious” personality type (or perhaps several)? What underlies peoples’ commitment, or not, to a religious belief? Is there a universal “spiritual” or “religious” striving which deeply motivates all of us whether or not it is consciously recognized? What are the correlates of religious belief with regard to social attitudes (e.g., political leanings) in general? What roles do their religious beliefs play in believers’ lives? Such questions have long attracted psychologists’ attention.

Regarding religious typology, one of the earliest distinctions was that made by William James, in *The Varieties of Religious Experience*, between “once-born” and “twice-born” believers. The former devoutly retained the religious beliefs in which they were raised

throughout their lives, undisturbed by crises of faith, the latter, whether previously believers or not, had acquired their religious convictions as a result of a profound personal experience, typically conversion or as the resolution of a crisis of faith. In 1914, the German psychologist Edouard Spranger proposed six “ideal types” of personality differing according to which was their dominating “value”: theoretic, economic, aesthetic, social, political, or religious. However, the “religious” value had a somewhat different logical status than the rest, since, although strictly referring to two types of “mystical” value orientation (immanent and transcendent), it could also combine with the others to yield distinct modes of religious expression or idealized attitudes. So the “theoretic” attitude for example might focus on theology and rational justification of belief, the aesthetic attitude on artistic expressions of faith such as painting or music. Wulff has described Spranger’s position as “existential-interpretive,” and G.W. Allport was much taken with Spranger’s approach at one point. In his theory, however, as explained in *The Individual and His Religion*, religion is conceived as an overarching integrating system of values, the ideal end product of individual psychological development. Even so, Allport was also interested in developing more psychometric approaches to the study of religion’s place in the individual’s personality, collaborating in devising the Ross-Allport Religious Orientation Scale cited earlier (ROS). This sought to differentiate “intrinsic” from “extrinsic” motivation in religious belief. For those in the former category, religion is the “master motive” and determines their whole way of life, for the latter religious belief is ultimately subordinated to practical, instrumental ends. Another popular instrument was E.L. Shostrom’s *Personal Orientation Inventory: An Inventory for the Measurement of Self-Actualization* (Shostrom 1966) (POI). The British social psychologist Michael Argyle also attempted to correlate personality variables and social attitudes with religious belief in his *Religious Behaviour* (Argyle 1958).

These moves initiated what became an ongoing research tradition amongst psychologists seeking to pin-down the varieties of religious belief at the personality level. More recently, a differentiation has been made between “religiosity” and “spirituality” to take into account the fact that nonbelievers may nevertheless

appear to have strong “spiritual” values, while practising religious believers are not always particularly “spiritual” in character. This has yielded a 2×2 matrix of High/Low Religiosity versus High/Low Spirituality, hence four types “Traditional Integrated” (High/High), the majority in the United States, “Spiritual Seeker Individualistic” (Low relig./High spirit.), Cultural Dogmatic (High relig./Low spirit), and “Uninterested or antagonistic” (Low/Low) (see J.M. Nelson 2009, p.11).

The psychometric approach as such, it is fair to say, was nonetheless bedevilled with difficulties. It was extremely hard to devise questionnaires which did not implicitly assume that those taking them were (whether believers or not!) operating in relation to one specific religion (usually Protestant Christianity). Wulff has a very useful discussion of the shortcomings of both the ROS and POI. While it seems intuitively obvious that some people are temperamentally inclined toward religious belief and/or practise, while others are not, efforts at identifying a psychometrically clear-cut and universalisable “religiosity” dimension have so far proved unsuccessful. In attempting to do so, researchers have had to confront the sheer variety of functions which religious belief can serve for different people, suggesting perhaps that Spranger’s approach was abandoned a little prematurely. Turning to social and political attitudes, it is no surprise that strong correlations can be found between specific religious allegiances and positions taken on contemporary sociopolitical issues. What is also clear though is that these are highly variable over time, and that whether religious belief “causes” the attitudes or the attitudes determine which religious allegiance is most congenial is undecidable in any general way.

The universality of “spiritual striving” also remains contentious. In some form or other, it is itself an article of faith for many in the psychotherapy field, but as an empirical proposition rather than a moral injunction, it is difficult to see how it could be confirmed. Surely the high level of sheer cynical wickedness in the world rather suggests otherwise? For a recent optimistic however see J. Bering (2010).

Psychology and Non-western Religions

Psychologists concerned with religion have, for the most part, always displayed a certain interest in non-

western religions, while remaining primarily concerned with Christianity and, to a lesser extent, Judaism. During the heyday of US Psychology of Religion, they invariably figured in discussions of the origins of religion and mysticism for example, but the stance taken was almost always that Christianity was the most evolved or “highest” form of religion. During the post-1945 period, and into the 1960s, there was a surge of interest in Buddhism (especially Zen Buddhism) and Hinduism which more positively sought to redress the perceived imbalance in prevailing occidental Psychology by incorporating the insights of these. Jung had always been fascinated by the symbolism of oriental religions and endorsed such works as Richard Wilhelm’s (1960) translations of the *I Ching* and *The Secret of the Golden Flower*. In the United States, it was Zen Buddhism which initially attracted most attention, Erich Fromm, for example, coauthored *Zen Buddhism and Psychoanalysis* (Fromm et al. 1960). Lao Tzu’s *Tao Te Ching* also enjoyed popularity in new translations. It is though hard to disentangle the specifically psychological interest in these faiths from their vogue in the broader cultural – and counter-cultural – climate of the times. Nonetheless, it is a fair generalization that many “Growth Movement” psychotherapists took the Buddhist and Hindu ideas and techniques for achieving self-knowledge seriously and found them insightful.

Since around 1990, the situation has changed significantly due to the increasing globalization of Psychology and the recent emergence of Postcolonial Psychology. This has resulted in numerous works bearing titles such as *Heart, Self and Soul: The Sufi Psychology of Growth, Balance and Harmony* (R. Frager 1999), *Islamic Psychology: Emergence of a New Field* (A. Husain 2006), and *The Positive Psychology of Buddhism and Yoga* (Levine 2000). There were also several earlier works of a similar character. As Psychology globalizes, so those in non-western cultures naturally seek to incorporate their own indigenous, usually religious, psychological wisdoms into the discipline, offsetting its western biases and assumptions. This raises an important problem for which there is no easy resolution. Whatever its internal diversity, western Psychology is, unambiguously, a discipline embedded in the western academic tradition, including both the sciences and the humanities. Whatever their disagreements its

practitioners are at least agreed on one thing – they are engaged in some kind of knowledge-generation activity. That is to say there are active frontiers at which they labor and their work continually challenges, changes or expands on existing knowledge. Psychologists have trouble enough maintaining a sense of unity, but on this at least there is a consensus. If however we add Hindu, Buddhist and Islamic “Psychologies,” this is necessarily challenged, for while such religions contain elaborate and sophisticated accounts of the psychological, they are not, by their very nature, engaged in generating new knowledge. Their task is to teach and spread the knowledge they already have. In the west only Catholic Thomist “rational Psychology” is similar, and that, as we saw, managed to adjust to Psychology by deploying the empirical versus rational distinction (itself a religious doctrine in their case). Note that the globalization of the physical sciences faces no similar problem, there are no currently active religious rivals, no Buddhist geology or Islamic physiology.

Psychology is thus in a dilemma, as yet not fully appreciated, regarding what to do about these Psychologies. It cannot simply reject them as “unscientific” since to do so would be to endorse western Psychology’s hegemony, with all its cultural biases, but to incorporate them is also impossible without sacrificing the notion of the discipline as a knowledge-generating project. Psychology’s current internal divisions are of three kinds: those pertaining to subject matter (yielding subdisciplines), those pertaining to theory (behaviorism, cognitivism, social constructionism, etc.) and those pertaining to methods (laboratory experimentation, field studies, discourse analysis, etc.). But non-western religious Psychologies are not definable in any of these terms. They are not even “theories” in the orthodox sense since they are total religious belief-systems, and do not generate testable hypotheses, etc., in the way Psychological theories do (or can be criticized for not doing). The momentum of the developments generating this conundrum is probably unstoppable, and the conundrum itself is no argument against it. In the end, one supposes, each non-western faith will have to travel the same path as Christianity has done and find its own way of adjusting to the presence of Psychology. Neither the religions nor Psychology will remain unchanged in the process.

Current Cognitive and Evolutionary Psychologies of Religion

This entry being about the relationships between Psychology and religion, rather than psychological theories of religion, these two recent trends (their significant presence dating back only to the late 1990s) can only be dealt with very briefly here. For our purposes, they are significant as representing a renewed attempt to produce a Psychology of Religion rather different from those of the past. One major contrast is that their keenest advocates tend, with varying degrees of qualification between authors, to offer reductionist scientific accounts of religion rather than, as previously tended to be the case, accounts motivated by a desire to demonstrate the compatibility of religious belief with scientific psychological theories. The second is that while earlier approaches were by and large eclectic in the psychological ideas they drew upon, both of these are concerned to show how a single specific theoretical framework can comprehensively “explain” religion. Only the initial psychoanalytic critiques of religion were so ambitious (though G.B. Vetter, 1958, was a behaviorist exception). Ironically, it may be only now, when sympathetic treatments of religion and “spirituality” are reappearing on the discipline’s psychotherapy and clinical wing, that something like a classic “science versus religion” contest is finally surfacing in these theoretical camps.

Even so, neither approach (and they have overlaps) is internally homogenous, with considerable variation in the extent to which their proponents espouse reductionist or antireligion positions. This is very apparent in the wide-ranging, 50-chapter, collection of essays *The Evolution of Religion. Studies, Theories and Critiques* (J. Bulbulia et al. 2008). It might though be noted that anthropologists greatly outnumber psychologists among the contributors (along with representatives of several other disciplines). Leading figures include, on the cognitivist side, P. Boyer (2010), S. Guthrie (1993), and H. Whitehouse (2004), and on the evolutionary side, J.L. Barrett (2004), L.A. Kirkpatrick (2005), J.P. Schloss and M. Murray (2009), and R. Sosis and C. Alcorta (2003). J.M. Nelson (2009) has a useful, if brief, critical resumé of their theoretical concepts and hypotheses. Evolutionary Psychology itself, based primarily on the sociobiological model, is of course vulnerable to numerous conceptual

criticisms. These cannot be explored here (see G. Richards 1987, Rose 2000 for instance), but one point should be made. Many writers, including the cognitivists, still tend to view religion as comprising a set of (usually “irrational”) empirical beliefs. This is surely misleading, as mentioned in the opening paragraph. Nor is “irrationality” self-evident, there was indeed a time in the seventeenth and eighteenth centuries when atheism was widely considered a form of madness, and William Paley’s “Argument from Design” was widely accepted as irrefutably logical by many scientists in the early nineteenth century (e.g., the authors of the *Bridgewater Treatises*). One cannot, by scientific fiat, simply differentiate the rational from the irrational as natural psychological categories.

Despite the increasing number of publications on religion from these two schools, especially since 2000, they have yet (in 2010) to achieve a powerful academic presence within the discipline as a whole, though this could change.

Conclusion

As we have seen, the relationships between Psychology and the religions (primarily Christianity) in its host societies have been of a variety of kinds. While psychologists have sometimes tried to “explain” religion away in theoretical terms as a quasi-irrational pathology (psychoanalysis, behaviorism, evolutionary psychology), they have also cooperated with it (numerous psychologists especially in the pre-1914 period), integrated it into their theories (G.W. Allport, Carl Jung), co-opted its insights in secular terms (“Growth Movement” psychotherapists), sought psychological correlates of religious belief in descriptive fashion (e.g., M. Argyle 1958), focussed on specific religious phenomena (notably religious experience and conversion), and simply accepted its underlying values in applied fields (notably “moral education”). The religious for their part have, while occasionally opposing Psychology, more typically sought to incorporate its concepts into their own psychotherapeutic and counselling practises, formulated theoretical reconciliations with it (e.g., Oscar Pfister), used it as a resource for reformulating and modernizing their doctrines (many of the more pious early psychologists of religion as well as more recent theologians), and, in the early days, welcomed it as a potential route for validating religious belief. More profoundly, it is

clear that, both consciously and unconsciously, psychologists' work can be deeply affected by their own religious backgrounds and motivations as well as, more obscurely, the religious characters of the societies in which they live (e.g., the "individualist" orientation of mainstream US Psychology in relation to its prevailing Protestant culture).

Explanations are attempts at resolving puzzles, and psychologists have found religion puzzling in numerous respects which the religious in turn may either dismiss as misunderstandings, share, or consider irrelevant. One common puzzle for psychologists is not anything about religion as such, but how their own favored theory can account for it, another is its perceived "irrationality" (as apparently disclosed by these theories), which as noted previously is a highly problematic accusation. Others may be puzzled, or at least curious, regarding the way religious belief correlates with social attitudes, or focus on more extreme varieties of religion such as cults. For personality theorists, the question is how religious belief functions in believers' lives. Yet others may just be concerned to ensure that their religious moral values can continue to guide their practise as educational psychologists or other fields of applied Psychology.

As Psychology globalizes, most of these issues are likely to become more acute as it has to negotiate its relationship with non-western religions (each with its own regional variants and branches), notably Islam, Hinduism, Buddhism, and various indigenous African religious concepts. Ultimately, the issues we classify as "religious" remain matters which we can only resolve at a personal level, albeit in the light of the public knowledge, ideas, and information available to us (including Psychological theories and findings) in combination with our individual experience and temperament. But even saying that perhaps reflects only the unbelieving author's Protestant cultural background.

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Psychology in Modern India

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The history of psychological thought in the Indian subcontinent may be divided into three distinct periods: *first*, a multi-millennial span from antiquity to the founding of the British empire in the mid-nineteenth century; *second*, about a century of British colonial times up to independence attained in 1947; and *third*, bit over half a century of the independence era. The first period is covered in a separate entry in this volume (see Pre-modern India and Psychological Thought). This entry covers the 2nd and the 3rd periods.

Psychology in the British Colonial Period (1857–1947)

The British East India Company adopted a policy of funding only European-style education within its territories several years before the subcontinent was formally accessioned to Queen Victoria's empire in 1857. The aim of this policy was to produce a class of Indians who would be brown in color but English in their thinking. The success of this policy was enormous; its results were at least twofold. While on the one hand the vitality of the indigenous intellectual tradition was reduced to a great degree, Indian intelligentsia became exposed to European thought and modern science. Education in colleges and universities was modeled after Oxford and Cambridge. Modern psychology was introduced at Calcutta University with the starting of a separate department of psychology in 1916. Dalal

(2002) has given an excellent overview of the history of psychology since that time onward. During nearly a century that has passed since, Indian psychologists trained abroad as well as those trained in India almost exclusively followed the Western brands of psychology. Their theoretical contributions will be discussed in a later section. But first let us take a look at psychology as it developed on the foundations laid by India's own intellectual tradition.

The tradition of spiritual self-development which gave psychology in India its most distinctive character continued to flourish despite the Anglicization and modernization of various aspects of the Indian culture. Numerous lineages of teachers and disciples (*guru, śiṣya*), that are recognized as distinct "sects" which followed their own brands of theory and practice, continued to proliferate and flourish. One of the many well-known pairs of teacher and disciple in the modern times was Ramakrishna Paramahansa, the great saint of Kolkata, and his disciple Swami Vivekananda. He is widely recognized as the first Indian monk whose lecture at the world conference on religions in Chicago in 1883 became a landmark in introducing Indian thought in the USA. The importance of his work for psychology follows from the fact that the Swami made a deep impact on William James and his ideas about the higher states of consciousness (Taylor 1988).

With the increasing prevalence of the distinctive Western world view promoted by Anglicized higher education and the inevitable influence of science, there was a great need to interpret traditional ideas in light of modern concerns and concepts. Among the important pioneers in interpreting Indian thought in the context of Western philosophy two names may be mentioned: Krishna Chandra Bhattacharyya (1875–1949) and S. Radhakrishnan (1888–1975). In terms of articulation of the basic principles and theories for psychological theory and practice, we may note the work of B.G. Tilak (1856–1920), who interpreted the Path of Action described in the *Bhagavad-Gītā* in light of post-Kantian philosophy and Darwinian thought. But beyond doubt the most important contribution to psychology in the Indian tradition was made by Aurobindo Ghose (1872–1950), widely known as Sri Aurobindo.

Sri Aurobindo was a genius. Educated from childhood in England, young Aurobindo mastered French,

Latin, and Greek, and learned enough German and Italian to enjoy Goethe and Dante in the original, before graduating from Cambridge University. He started his adult life as a freedom fighter and journalist, but spent later years as a poet, sage, and a yogi. Psychology was one of the important topics in his voluminous writings. He was not formally trained in psychology; he was a sage in the Indian tradition who wrote on psychological topics on the basis of his profound experience as a yogi. Prominent in his contributions to psychology is his work called *The Synthesis of Yoga* (Aurobindo 1949/1999) in which he brings together the essence of the three basic varieties of yoga, namely the paths of Knowledge (*jñāna mārga*), Devotion (*bhakti*), and Action (*karma*). Having mastered the Sanskrit language, which he learned as an adult, Sri Aurobindo wrote commentaries on the principal Upaniṣads as well as the Vedas. In this work, he gives symbolic interpretations of several hymns of the Vedas explaining the psychological significance of the parables therein.

Turning now to the academic psychology that was transplanted from the West, we may note two pioneers: Narendra Nath Sengupta of the Calcutta University, who was trained in experimental psychology with Hugo Munsterberg at Harvard, and his successor Girindra Shekhar Bose, who became a self-taught psychoanalyst to be admitted by Freud to membership of the International Association of Psychoanalysis (see Vahali 2011 for details). Thus, both Western experimental and clinical approaches were imported, and since then numerous psychologists trained abroad have continued to bring Western trends into psychology in India. Of these two strands of Western psychology, the experimental model flourished, while psychoanalysis lagged far behind. As to psychology of the Indian tradition mentioned in the first part of this essay, its theoretical side became a small part of philosophy courses in universities, while the applied aspect was completely sequestered away from the academy. With the exception of Indra Sen (1986), few psychologists recognized the great contributions to their discipline by Sri Aurobindo.

Mahatma Gandhi (1869–1948) is universally known as a saint, a freedom fighter, social reformer, and a great thinker, but not as an academic – let alone a psychologist. However, it is necessary to recognize his

contribution to what may be called “applied social psychology.” Seeped in traditional Indian thought and culture, Gandhi emphasized the principle of nonviolence (*ahimsā*), and developed *satyāgraha* (the word literally means insistence on truth) as a technique for nonviolent resolution of social conflict. Gandhi’s style of leadership demonstrates his deep understanding of what modern psychologists have called “group dynamics.” He may be legitimately considered an applied social psychologist par excellence. Gandhi’s work reflects the *practical* orientation of psychology in India. It is neither abstract theory-building nor empirical validation of propositions that take central stage in the tradition of psychology in India; the primary goal of human sciences is to devise ways that help in successfully dealing with problems of living.

Dalal (2002) quotes the following observations made by a prominent contemporary psychologist Ashis Nandy: “[T]he usual encounter between an ancient culture with its distinctive culture of science and an exogenous science with its own distinctive culture fractured the self-definition not only of Bose but of many others involved in the similar enterprise” (Dalal 2002, p. 83). Nandy’s words would convince anybody who has noted that, in the case of many Indian psychologists in recent times, their world view as quapsychologists seemed to be completely divorced from their world view as members of the Indian culture. This historical background is necessary to understand how and why the development of psychological theory in later years split into two loosely linked and yet rather distinct streams, one following the Indian tradition while the other remaining Western in style and spirit. In the mainstream, however, the Western impact continued with the choice of British, American, and Canadian Universities as preferred destinations for higher learning. The first generation of academic leaders in most of the Indian universities, therefore, were products of Western training and psychology modeled after natural science remained the dominant voice.

Psychology in Independent India (1947–)

Soon after India gained independence from the British rule, psychology witnessed an explosive growth with departments of psychology opening up in old

universities as well as in a continually widening circle of new universities and institutes of technology and management. There was a similar explosion in the number of research publications in Indian as well as international journals. Despite all the exceptional growth of the field, there has been acute restlessness about the significance of the accomplishments.

Dalal (2002) complains about the

- growing disillusionment with applicability of western theories and their mindless testing in India. Their failure to resolve inner conflicts of cherishing Indian cultural values at the personal level and maintaining western orientation at professional level was reflected in their methodologically sophisticated but socially irrelevant research. Western psychological theories and research were not effective in understanding the Indian social reality. As a result, Indian psychologists became increasingly marginalised in society. (p. 95)

Regardless of such restlessness, psychological research has continued at an ever-increasing pace. As far as theories are concerned, there are notable contributions that have followed both traditional Indian as well as a few Western models. A brief overview of the more important contributions is in order.

Theoretical Contributions Following the Traditional Indian Lines

A natural reaction to finding the cultural misfit and redundancy of imported models is to turn to the rich intellectual heritage of one's own culture. A clarion call in this direction was given by Durganand Sinha (1965) asking for the integration of modern psychology with Indian thought. In a national conference in 2002 well over 150 psychologists proposed the "Pondicherry Manifesto of Indian Psychology" (The full text of the Pondicherry Manifesto of Indian Psychology is available on the following link on the Internet: www.infinityfoundation.com/mandala/i_es/i_es_corne_manifesto_frameset.htm) which repeated Sinha's call in following words:

- By Indian psychology we mean a distinct psychological tradition that is rooted in Indian ethos and thought, including the variety of psychological practices that exist in the country... Indian models of psychology would have enormous implications for health

psychology, education, organizational management and human and social development. Emphasis on Indian psychology would provide a comprehensive foundation and a refreshing new and indigenous orientation to all other branches of psychology.

Two rather distinct but related lines of development in "Indian Psychology" can be identified which signify elements of resistance and protest. The first one mainly involves interpretation of traditional approaches in light of modern perspectives. In such works, attempt is usually made to explain the relevance of traditional concepts and methods with explanations given in currently popular idiom. Foundational issues underlying theory building in terms of ontological and epistemological issues are discussed in Rao et al. (2008) and Cornelissen et al. (2011a).

There is a wide range of studies that explain how insights of traditional Indian origin contribute to the understanding of specific psychological issues. Notable in this context are publications in the fields of consciousness (Rao 2002; Cornelissen 2001), self (Paranjpe 1998), emotion (Paranjpe and Bhatt 1997), and perception and cognition (Rao 2011).

Aside from such theory building efforts based on traditional foundations, there are efforts toward the empirical validation of theories with the use of Western-style tests and measurements. Several measures have been developed to assess personality typology based on the Sāṃkhya concepts of the three strands of Prakṛti, the principle of materiality. A remarkable effort was made by Pande and Naidu (1992) to empirically examine a set of propositions from the theory of acting without attachment to results of one's action described in the *Bhagavad-Gītā*. Then, they developed and validated a measure for an attitude of nonattachment, and correlated the strength of such attitude with various indices of mental health.

The dominant approach to psychological knowledge in the Indian tradition is, however, grounded in a different world view in which focus on self and self-development is valued, and the success of a theory is judged in terms of the usefulness of applications in existential benefits and spiritual progress. With the divorce of religion and science in the history of Europe typified by Galileo's inquisition, spirituality was driven into the religious camp, and it became an anathema for

the “science” of psychology in the West. Most Indian psychologists simply followed this trend. But things have changed more recently; research on meditation has become common in contemporary psychology, and yoga has become a household word. In this context, theories and methods of traditional Indian origin are being recovered and critically examined and articulated in the contemporary context.

First of all, there is a burgeoning body of literature on various techniques of meditation and the measurement of their success. A review of this literature with specific reference to Indian approaches may be found in Rao (2011) and Salagame (2011). Paranjpe (2008) has adopted a case-study approach; he has examined the life history of a modern sage, Sri Ramaṇa Maharshi, to see how the traditional Advaitic method of meditation is modified and practiced in modern times, and the kind of transformation it can lead to. Similarly, he (Paranjpe 2011) has examined the life history of B.G. Tilak, a modern exponent of the Path of Action (*karma yoga*) and tried to assess how and how far he brought into action the principles he preached. Such use of case studies for validation of theories fits the distinctive character of the Indian tradition where a personal application of psychological models is crucial. The worldwide popularity of Yoga and meditation indicates the relevance of the Indian approaches where similar goals are valued. Patañjali’s theory of Yoga provides the backbone of an ambitious and continuing program for the assessment of psychosomatic benefits of Yogic practices. Literature reporting the results of numerous studies is available from the website (See http://www.svyasa.org/research/research_publication.asp) of the Swami Vivekananda Yoga University, which has become the hub of research on Yoga. Another similar source of information about ongoing research focused on psychological theories of Indian origin is the website of the Indian Psychological Institute, which is closely associated with Sri Aurobindo Ashram in Pondicherry (See <http://ipi.org.in/>).

Theoretical Contributions Following Modern Western Lines

Since the growth of knowledge is socially conditioned, the developments of psychology in India including its theories and concepts need to be appreciated in the local and global historical and sociocultural matrix

in which the country has been positioned. Being a developing country with millennia-old culture, a richly diverse society, and a two-century-long colonial past, India is currently aspiring to emerge as a self-reliant and economically strong nation. Faced with the challenge of socioeconomic transformation, the country has been engaged in efforts toward industrialization, modernization, and globalization. Navigating through this difficult terrain has been a complex challenge and has shaped the developments in the academic disciplines also.

India has been engaged with rapid growth of higher education and rapid expansion of professional institutions to meet the increasing demand for trained personnel in various service sectors like health, administration, banking, police, military, and management. The cultural complexity of India due to diversity in ecology, language, religion, family structure, and uneven introduction of technology has put a challenge before the planners to ensure social welfare through democratic processes. This context has shaped the course of higher education in general and psychology in particular.

The challenge to relate India’s past and modern psychology was a main concern in the early period and continued since then. In fact, the search for a distinct identity for psychology in the Indian context has remained a key issue. Theoretical innovations came from the real world as well as the difficulties faced in applying psychological knowledge to the diverse problems faced in the Indian conditions. In the course of the disciplinary journey, the theoretical–conceptual ambience of the works of Indian psychologists has undergone several shifts in themes, alignments, and emphases.

The teaching and research in modern psychology began largely as an extension of the Euro-American tradition in the British period. Its initial emphasis was not so much on questioning and doubting the Western concepts and methods, but on preserving the essential configuration of the discipline and keeping it as similar to the one in the Western world, as possible. We also note that there existed a tradition of British psychoanalysts who tried to offer interpretations of the Indian psyche to justify the British rule. (Citing Christine Hartnack’s work Vahali (2011) has discussed at length how early British psychoanalysts tried to create

universal psychoanalytic conceptualizations that explain away Indian experiences of selfhood, or view them as essentially inferior, less worthy or simply pathological, or otherwise deficient. It acted as a tool to justify social oppression and colonial rule).

In the mainstream critical paradigmatic questions of ontology and epistemology were sidelined to give space for the newly emerging positivist scientific enterprise. We find that the Western model of research and teaching provided the initial necessary direction to Indian psychologists. Dependence on Western thought was deemed legitimate owing to unexamined theoretical suppositions about the universality of psychological knowledge. It was largely in the 1970s that many psychologists raised the issue of insufficient and inadequate attention to social-psychological problems. The Indian psychologists realized that they had been indifferent to the vast and rich collection of knowledge inherent in the Indian texts. However, the commitment to scientific inquiry was venerated and debates related to the philosophy of science and related arguments could not receive due attention until the 1980s (Mukherjee 1980; Misra and Gergen 1993; Varma 1995). Also, there has been a constant pressure for problem solving and application in the social world (Sinha 1986).

A scrutiny of the published literature suggests that the theoretical endeavors of Indian psychologists have taken many forms (for details, see Misra and Kumar 2011; Pandey 1988, 2004). They have been more interested in the use of theory as a heuristic device for problem solving in relation to the changing features of the social reality (e.g., technology, economy, media, environment, migration, and education) rather than formal theorization. The mismatch between western theories/concepts and Indian reality has led not only to the introduction of new concepts but also to the modification of constructs in vogue to accommodate newer aspects of reality as applicable in the Indian milieu characterized by a mix of factors demanding a balancing act between the age old traditions of oral culture, cosmological worldview, and hierarchical social order on the one hand and modern influences which emphasize more on technology, social and geographical mobility, secularism, and materialism, on the other. There are growing attempts to test the assumptions and predictions of psychological theories in the

Indian context. While culturally informed studies are on rise, full scale reconceptualization or indigenous theorization has been limited.

Early Efforts

Keeping in mind the colonial background of modern learning in India, the mandate of initiating scientific psychology in the prevalent Wundtian tradition and subsequently in the behaviorist tradition was a natural choice. The eagerness to attain an independent identity for the discipline constituted the package of academic delivery consisting of empirical work, positivist metatheory, a universalistic stance, and the presumption of cultural immunity of psychological concepts and theories.

In terms of the institutional structure, psychology was earlier a part of philosophy departments. Separate psychology departments were started largely between 1940 and 1960. In order to maintain a separate identity, the teaching and research practices opted to fashion themselves as differently as possible from the parental discipline of philosophy and similar to the physical and natural science disciplines. To this end, they over-emphasized experimental psychology and psychometry – the distinctive features of the new science – and made them the core of psychology curricula which continues till today. Indeed, empiricism and quantification made possible the flourishing of an empiricist-positivist brand of psychology aimed at generating and testing nomothetic laws as objectively as possible.

However, it will be a mistake to ignore another feature of the academic prowess of the first generation of Indian psychologists. They were also cognizant of their cultural roots and tried to address the academic as well as nonacademic audiences. In a pioneering work entitled *The Science of the Emotions*, Bhagwan Das (1908) presented a rich account of the Indian science of affect. G. S. Bose wrote about the Upanishads and mythology in Bangla language and had an academic fascination for psychoanalysis (see Dalal 2002). Early researchers did attend to the theoretical issues and noted the importance of traditional knowledge but did not reject modern theories.

It is interesting to note that even during the early part of the development in India, many indigenous lines of inquiry were also prevalent. Examples that

highlight this trend include Asthana's (1950) work on Sāṃkhya theory of personality and Indra Sen's (1986) elaboration of the integral psychology of Sri Aurobindo. E.G. Parameshwaran started research on the Triguṇa (*sattva*, *rajas*, and *tamas*) theory (Uma et al. 1971) which has been followed by several studies (see Salagame 2011). We also find works on the Indian typology of personality (Krishnan 1976/2002) and tantra (Mukerji 1926). Some notable works were undertaken from the Western tradition for further study. For instance, Asthana (1960) proposed that perceptual distortion is the function of the valence which an object acquires from the field structure in which it exists. In this way he tried to resolve the differences between gestalt and learning theories and incorporated Lewin's field theory. In the area of learning theories, the S-R theory was challenged by Kothurkar (1968).

Thus, we see a dual focus of the researchers. One set of works was focused on the study of phenomena pertaining to sensation, perception, psychophysics, and reaction time in the natural science tradition with the spirit of creating a universal theory which would be modern in its texture. Another set took a theoretically relevant initiative to interpret various Indian phenomena in the light of Western theories and constructs and vice versa, while also trying to develop theories based on traditional Indian concepts. The scholars were cognizant of the possibility of indigenous knowledge resources but considered scientific enlightenment as more important. The coexistence of the two traditions which had some overlap but maintained separate identities was gradually replaced by a move that led to a greater gap between the Indian ethos and the academic pursuit of psychology. The assumptions of universally shared computational notion of the mind/brain and strong empiricism were very powerful in creating the boundaries of the discipline and furnishing the criteria of inclusion and exclusion.

Under the prevailing academic culture, Indian psychologists' theoretical engagement remained confined to attempts at enlarging the scope of a set of explanatory (independent) variables that may enhance predictive power in accounting for a set of chosen (dependent) variables. Thus mapping quantitative variations in psychological variables was the main research strategy. Other theoretical and methodological approaches (e.g., Indian, spiritual, qualitative, and

discursive) were marginalized on account of their doubtful scientific status and consequently underrated as knowledge claims.

Against this backdrop, it was natural that testing (western/universal) psychological ideas on Indian samples or creating the Indian version of Western tests/tools/concepts became a major preoccupation. This led to proliferation of adaptation and adoption of tests in different areas like intelligence and personality. The practice of psychology remained Western in content and orientation, and used Western academic developments as standards for comparison. This was done as an authentic and legitimate academic practice and got reflected in teaching programs and choice of research topics. The traditional Western models from behaviorism, schema theory, Gestalt school, Pavlovian theory, and information processing theory were popular. Similarly, theories by Cattell, Eysenck, Erikson, McClelland, Piaget, and Herzberg served as some of the dominant frameworks of Indian psychologists for conceptualizing psychological issues and explanations. The researchers were dominated by the mindset that psychological characteristics are stable and reliable dispositions subject to quantification. On the other hand, cognitive processes were handled in terms of concrete and manipulable entities. The positivist methodology was dominant and critical determinant of the choice of problems, variables, processes, and practices. Theory was treated as a copy or map of reality. A strong correspondence between the two was emphasized. There was explicit and implicit endorsement of biology as the ultimate, and reductionism became a strong belief. Affective and social phenomena were mere derivatives of biological and cognitive processes which were foundational. All this was going on in terms of an image of science and scientific practices that did not bother about the dynamic nature of social reality and social conditioning of knowledge. The "basic problem", as Nandy and Kakar (1980) have observed, involved "dependence on conceptual frameworks which are not intrinsic to the experience of society" (p. 159).

A Socially Relevant Psychology

In the 1980s, several lines of investigation across many domains of social psychological processes showed that many of the phenomena reported in Western research literature required different explanations rooted in the

Indian cultural milieu. Examples of this kind are found in the areas of social cognition. Thus predictions from attribution theory with socially and culturally specific causal categories were tested for understanding achievement, health, and other aspects of human behavior (Dalal 1988). The change took place when psychologists found the applications of Western theories/methods to be either ineffective or irrelevant in real life situations in India. A selective overview of some of these developments in key areas is presented below.

Human cognition: Researches on attention, emotion, and consciousness (see Srinivasan 2011), by using multiple methods and approaches, have shown cross-cultural aspects of emotion as well as of meditation, in terms of underlying neurophysiology. There are also researches on philosophical aspects of cognition that view cognition and other mental phenomena as central to the functioning of all living beings. To put it another way, the fundamental principles governing cognition run from a single cell to human societies.

Planning is a key intellectual function. Extending the earlier work on PASS (Planning, Attention, Successive, and Simultaneous Processes) theory, Das et al. (2000) have brought out its significance in various cognitive functions. Srivastava and Misra (2007) have developed an indigenous conceptualization of intelligence and termed it integral intelligence. It has four dimensions: cognitive competence, social competence, competence in action, and emotional competence. The analysis of creativity has been undertaken from a culturally informed position (Misra et al. 2006).

Sinha (see Misra and Tripathi 2004) was perhaps the first one in India to emphasize the role of sociocultural context in understanding cognitive development. Following this tradition, R.C. Mishra (1997) has been investigating the ways in which basic cognitive processes like perception and memory get shaped and manifested under diverse eco-cultural settings. Pirta (2011) has investigated native cognition in Himalayas and has endeavored to develop a bio-ecological framework integrating ecology, biology, and behavior.

Attitude and social cognition: With the political independence of the country in 1947, the highest challenge was that of the problem of communal tension arising out of partition. This led to studies of conflicts, prejudice, stereotypes, discrimination, and violence. Since then it has remained a productive area of

research. These studies were directed toward measuring attitudes, stereotypes, and cognitions and relating them to a number of contextual and dispositional variables. Also, there was the challenge of social and national development of reality and psychology played the role of identifying the facilitators of, and resistances to, the process of development.

In interesting rumor studies, Prasad (1935) examined the responses to an earthquake in Bihar, and published a comparative analysis of earthquake rumors which provided basis for cognitive dissonance theory.

Ashis Nandy's *The Intimate Enemy* (Nandy 1983) and *Illegitimacy of Nationalism* (see Nandy 2004) and Sudhir Kakar's *The Colors of Violence* (Kakar 1995) have touched on the cultural-historical aspects of selfhood and intergroup relations, indicating the need to attend to macro aspects to capture and understand the psychosocial systems. Further, such works encouraged psychologists to employ other methods to understand human behavior. A major programmatic and cross-cultural work based on studies in the Netherlands and India is by De Ridder and Tripathi (1992) recognized the prominence of group norms in intergroup behavior. They pointed out that norm violation by one group leads to a chain of negative reactions by both groups and, if this sequence continues, it is likely to escalate violent behavior.

Singh (2011) has systematically examined judgment and decision-making within the framework of information integration theory. His work spanning over a period of more than 3 decades has found that Indians use averaging, subtracting, multiplying, and dividing rules and their combinations. Such cognitive algebra, however, represents causal beliefs and not mathematical calculations.

Research in the area of distributive justice has focused on principles of distributive justice. L. Krishnan (2005) has analyzed the Indian notion of *dāna* (charity) and has drawn attention to its nuances with respect to deservingness in the Indian tradition.

The above works demonstrate a significant shift in research thinking and execution, where the psychologist seeks a realistic appraisal of the problems in the Indian context. This socially relevant focus helps in understanding everyday social issues, caste, and religious identities, intergroup behavior, justice, and nation building. The need for Indian psychologists to

be rooted within the sociocultural and historical contexts was and is repeatedly emphasized.

Psychology of poverty and deprivation: The study of poverty and deprivation has been an important area of research where researchers in different parts of the country (e.g., Rath at Bhubaneswar, A.K. Singh at Ranchi, D. Sinha at Allahabad, L.B. Tripathi and G. Misra at Gorakhpur) moved in many directions and have mapped the diverse effects of poverty, social disadvantage, and deprivation (for a comprehensive review see Misra and Tripathi 2004). Most of these studies have situated deprivation in the experiential-environmental context and have traced its detrimental influences back to aspects of development. The detrimental effects of poverty are accentuated by the unfavorable proximal environment of the child. Thus, intervention should address not only the cognitive-attentional drawbacks of the children but also the conditions prevailing in the family and school settings. They should be planned to create in the people a sense of empowerment to effect change in their life conditions. Unfortunately, the planning rooted in the Western model of development often ignores the traditional attitudes, beliefs, and values, and considers them antithetical to development ideology. There is growing evidence that social-psychological problems of Indian society are now being increasingly addressed by psychologists.

The challenge of achievement: The economic and social development was an important concern for a developing country like India. The theoretical analysis by McClelland underscored the significance of achievement motivation (n-Ach) as a driving engine for development. The lack of emphasis on individualistic and competitive spirit and independence were identified as the main causes of underachievement. This became the basis for a major intervention program at Kakinada in Tamil Nadu, as reported in *Motivating Economic Achievement* (McClelland and Winter 1969). It provided impetus for promoting entrepreneurship. The relevance of achievement motivation theory was, however, Indian challenged (e.g., Sinha 1968). The perceived value of various achievement goals is determined by the expectations of significant others. The concepts of “extension motivation” (Pareek 1968), “dependency proneness” (Sinha 1968), “achievement value” (Mukherjee 1974), and

“dissatisfaction-based achievement motivation” (Mehta 1972) are important contributions.

Organizational behavior: Rapid industrialization in the 1960s led to recognition of the need to study the labor-management relationship and organizational effectiveness. Chakraborty (1995) has brought into focus the critical role of values in managerial transformation, as well as ethics in management. R. Gupta (2002) emphasized the need to go beyond the American and Japanese models of organizational behavior, and develop models specific to the Indian conditions.

The concept of “nurturant task leadership” proposed by J.B.P. Sinha (1980) was an innovation showing the need for developing a theory relevant to culture-specific aspects of organizational behavior. It emphasized nurturance, dependency, personalized relationship, and status consciousness from the Indian cultural context and combined them with the contingency approach and the principle of reinforcement.

Individualism-collectivism, self, and identity: Indian scholarship has shown that the elements of Indian selfhood are complex and it is difficult to categorize it as either individualist or collectivist. Sinha and Tripathi (1994) see that there is the presence of individualist as well as collectivist aspects of self indicating a kind of “coexistence of opposites.” Mascolo et al. (2004) have demonstrated multifacetedness of the representation and experience of Indian self. They propose four ways of conceptualizing selfhood: independent, interdependent, relational, and encompassing. In addition, there are text-based, theoretical, in-depth, and extensive analyses – like the ones on the Indian views of self and identity (Paranjpe 1984, 1998), concept of self in the Sufi tradition (Beg 1970) – which offer insights to selfhood and identity embedded in the Indian traditions in which higher or “spiritual self” occupy important place.

Sinha and Pandey (2007) have proposed that Indian people function with diverse mindsets in different contexts. Thus, they manifest a materialist mindset in multinational organizations, and dependence prone or collectivist mindset in family owned, bureaucratic, and/or traditional organizations. They noted that Indians are holistic in terms of combining excellence in work, personalized relationships, abstract thinking, emotionality, rationality, and spirituality in those

organizations that valued both performance and people. Materialistic mindset was associated with manipulative behavior, and a holistic mindset with a proactive stance that manifested in innovative and extraordinary performance under inspiring superiors; both materialistic and holistic mindsets were instrumental to success at work, in different organizational contexts. The use of mindset varied depending on the cultural context.

Cultural psychology of emotions: In this area, certain indigenous concepts with culturally specific implications such as *lajjā* (shame) (Menon and Shweder 1994) and *bhakti* (devotion to God) (Paranjpe 1998) have been recovered and elaborated. At another level, depersonalized, transcendental and transformative aspects of the *rasa* experience have been delineated (Paranjpe and Bhatt 1997).

Health, human development and well-being: The Indian ideas and concepts like *ahamkāra* (Salagame 2011), *anāsakti* (Pande and Naidu 1992) have been explored, as are implications for health of various issues particularly relevant for the Indian context, for example, experience of crowding (Jain 1987), notions of health and well-being (Dalal and Misra 2005), and Hindu parents' ethno theories (Saraswathi, and Ganapathy 2002). Neki (1973) has tried to build therapeutic interventions for the promotion of mental health and well-being using yoga and has come up with a model called *Guru-Chela* therapy which involves the teacher-disciple relationship developed in the Indian tradition. Kakar's *Shamans, Mystics and Doctors* has become a classic which talks about indigenous healing practices. It clearly indicates the role of traditional healers in maintaining mental health in traditional societies. In *The Inner World*, Kakar has tried to present the interplay of the universal processes of development and the specific aspects of Indian social reality. He comprehensively tries to weave the story of development, health, passion and relationship by drawing from various sources including religious ideals, traditions, and institutions that constitute a society (see Kakar 1996; Vahali 2011).

These dimensions of psychology are leading psychologists to develop theories and concepts which do not take from any Western thought, but derive entirely from Indian traditions of thought.

Move Toward Indigenization

The indigenous thought systems remained neglected because there was a strong aversion toward them owing to doubts regarding their scientific status, contemporaneous relevance, and ontological suppositions (see Gergen et al. 1996). Psychological theories and constructs were taken as intrinsically biological, materialistic/objective in content, and quantitative in methodological approach. Therefore psychology, like other natural and physical sciences, was thought to be culture and psychological processes as distributed/shared uniformly across diverse cultures and sub-cultures.

This spurred the need for a radical change in cross-cultural psychology's universalist stance, and its almost exclusive focus on the discovery of panhuman patterns of behavior. "There was an implicit assumption that the definition of... concepts and their measurement as proposed by the Western research workers will also hold good in our cultural context" (Mukherjee 1980). The signs of efforts to outgrow the alien frame were noticed in the 1970s. The search for a new identity became a major question. Culture-specific concepts, and a search for culturally appropriate methods and tools were emphasized and the relevance of culture was realized. In this context, the interaction with cross-cultural and cultural psychologists has provided important impetus. Gradually, blending scientific ways with indigenous concepts emerged as an important academic agenda (Sinha 1997). Ramanujan (1990) has emphasized context sensitivity as the key feature of Indian way of thinking. Critical reflections (Misra and Gergen 1993; Nandy 2004; Varma 1995) have drawn attention to the limitations of natural science-based approaches and to new possibilities. It was realized that an understanding of Indian social reality would benefit from indigenous psychological knowledge and the discipline should contribute to the programs of socioeconomic development.

Rao (2002, 2011) has discussed human cognitive processes from the perspective of *Sāṃkhya-Yoga* system. According to this system, there are two principles that govern our existence – *puruṣa* (consciousness) and *prakṛti* (matter). *Puruṣa* is pure consciousness and has no quality or characteristics of its own; it is inert and formless. *Prakṛti*, on the other hand, is the material basis of our being. In Yoga, *citta* denotes the functional

mind, which comprises of not only the cognitive processes, the ego and the senses, but also contains instinctual tendencies (*vāsnās*) inherited from previous lives and the effect of past actions in the present life (*saṃskāras*). They influence our cognitions and predispose us to behave in certain ways.

In Yoga, *citta* controls our actions. Information processing in *citta* may take place at three levels that is, *buddhi*, *ahamkāra* (egoic self), and *manas*. *Manas*, the central processing unit, selects information provided by the sensory system and processes them. *Ahamkāra* (the emotional self) appropriates the processed information from *manas* and considers it as required by the perceiving person. And, *buddhi* decides and plans the actions and reactions in an appropriate manner.

The above discussion indicates the gradual inclination of Indian psychologists to move from Western theories, models, and modes of research toward an indigenous approach to theories and methods. We note the continued use of Western theories; yet they are consistently being tested in the Indian context. A beginning toward cultural sensitivity in the form of culture-based concepts, theories, and methods has been made. Today an Indian psychology is emerging which promises a broad theoretical foundation for the exploration of human consciousness (Yoga), and radical psychological transformation. Its applications are found in modern areas like organizational behavior (Chakraborty 1995; Gupta 2002). Accounts of the states and contents of mental functions regulating responsible human conduct available in vast Indian texts and practices is being rediscovered in a more contemporary context. It emphasizes a kind of perspective which is practical path or life ways that allow pursuit of balanced living and enjoying well-being and equanimity through self transformation and personal growth. The universal consciousness and transcendence requires methods that combine sensory, mental and spiritual tools and innovative theoretical paradigms. The recent publications on Indian psychology (e.g., Cornelissen et al. 2011a, b; Gupta 1999; Joshi and Cornelissen 2004; Misra 2011; Rao 2011; Rao et al. 2008; Salagame 2011) clearly indicate a serious move in the direction of creating and using *samvada* (dialogue) for better understanding. The conceptual network is being extended. The current theoretical developments

such as feminism, subaltern studies, critical theory, and post modernism are providing new ways of engaging with reality. The life world is being appreciated in newer ways and options are generated. There have been enabling moments that have helped Indian psychologists to go beyond the constraints. Promising elements of critique as well as reconstruction are seen.

Concluding Observations

Indian psychology in the twenty-first century shows that the initial emphasis on the replication of Western studies has given way to socially relevant research, and that there is a shift from experimental work (micro) toward understanding the psychocultural contexts (macro) using qualitative approaches.

Academicians have come to appreciate the depth, wisdom, and insightfulness of Indian thought traditions, and that it is possible to develop a scientific psychology based upon them. There are small but definite steps toward changing the content and quality of Indian psychology. Indian psychology endeavors not only to study the person and the causes and consequences of his/her behavior, but the process of transformation of the entire self, its growth and well-being. It is being realized that the psychological world is an intentional world that evolves in the matrix of the culture. Therefore, we need to look at psychological processes within cultural contexts, holistically. With these directions and prospects, the move toward indigenous psychology holds promise for the future of the discipline. The journey toward an indigenous psychology is in progress.

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Psychology in Pre-Modern India

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Indian cultural and intellectual tradition is a living tradition; it has continued in an unbroken form from hoary antiquity to the present. Psychological phenomena were an integral part of systematic inquiry and investigation in numerous schools of thought in this tradition.¹ The vitality of this tradition was reduced during British rule from 1857 till independence in 1947 as its world view and sciences were denigrated in an Anglicized educational system. During the British rule, Western psychology was introduced in the Indian

subcontinent, where it took roots and continues to flourish. Traditional approaches, which were pushed to the back seat for long, are currently getting attention and being introduced to the world. Since the cultural context in which these approaches developed is distinct from the European background of modern psychology, it is necessary to first explain certain substantive and stylistically distinctive features of Indian approaches to psychology.

The Historical and Cultural Context of Traditional Indian Psychological Thought

Foundations of psychological thinking in India were laid in the ancient texts called the *Vedas*, the first of which was composed about two millennia BCE. But more specific concepts can be traced to a set of texts called the *Upaniṣads*, which are dated around 1500–600 BCE. Yearning for spiritual uplift was a dominant feature of the Upaniṣadic sages. This yearning has continued to dominate the thought and practices of not only the “orthodox” schools that accepted the authority of the *Vedas*, but also the many schools of Buddhism, Jainism that rejected it. Although the two main branches of Buddhism, namely, Theravāda and Mahāyāna, originated in India, their influence in the Indian subcontinent nearly ended around the eighth century CE. Thereafter, the Buddhist traditions flourished outside India. Psychology in Buddhism is a vast field in itself; it deserves separate treatment of its own. Here reference to Buddhist concepts will be restricted to their dialectical relationship with few of the “orthodox” schools of thought. In the fourteenth century compendium called the *Sarvadarśana-saṁgraha*, Śāyaṇa Mādhava (14thc./1978) outlined over a dozen schools of thought, including orthodox as well as unorthodox. Within the limited scope of this essay, distinguished contributions of only the Advaita Vedānta, Sāṁkhya-Yoga, and Nyāya will be emphasized.

A major concern for several such schools of thought was spiritual uplift by means of self-knowledge. However, for millennia, the Indian culture advocated and encouraged the pursuit of four major goals of human life: fulfilling one’s social obligations and doing one’s duty (*dharma*), acquiring wealth and power (*artha*), fulfilling natural desires including sex (*kāma*), and

radical liberation from the fetters of living (*mokṣa*). Although some of the most distinctive Indian contributions to psychology arose from the spiritual quest for liberation, psychology flourished in other areas as well. Systematic study of experience and behavior in worldly pursuits is evident in highly regarded works such as Vātsyāyana’s (n.d./2002) *Kāma Sūtra*,² a treatise on sexology, and Kauṭilya’s *Arthaśāstra* (n.d./1992), which deals with state craft and group conflict, and Bharata Muni’s *Nāṭya-śāstra* (n.d./1996), a comprehensive work on dramatics, which deals with the expression and transformation of emotions. As well, the indigenous system of medicine called *Āyurveda* deals with certain issues in health psychology.

There is a wide range of psychological topics on which sophisticated theories developed in India. Important among these are consciousness, self, person, cognition, action, emotion, the experience of art, language, nature of suffering and pathology, positive mental health, and varied technologies for self-transformation and self-realization. The material available is vast; discussion of theories of specific topics such as consciousness or cognition warrant volumes. Given the international scope and audience of this encyclopedia, emphasis will be on those aspects of theories that are distinctive or complementary to their more commonly known Western counterparts.

Some Distinctive Features of Conceptualization and Analysis

Since the historical development of Indian thought proceeded on distinctive lines, it is necessary to explain some of its unique stylistic features. Insofar as the ancient texts were preserved in an oral tradition where entire texts were meticulously memorized and passed on to the next generation, it was important to condense ideas in aphorisms to minimize the burden of memorization. In an attempt to make the most succinct statement of a given system of ideas, a specific genre of texts called the *Sūtra*, which literally means aphorism, evolved around a couple of centuries before and after the beginning of the Common Era. The *Vedānta Sūtra* of Bādarāyaṇa, Patañjali’s *Yoga Sūtra*, and Gautama’s *Nyāya Sūtra* are examples of well-known texts of this genre.

Further development of systems of thought in India proceeded through a series of glosses (*vivaraṇa*) and commentaries (*bhāṣya*, *vyākhyā*) on important texts, and commentaries on commentaries (*ṭīkā*). Over the centuries, many of the commentators explained and elaborated ideas of the original texts of the originators of their specific school of thought. In this process, they often critiqued ideas of rival schools in a way that would first state the position of a rival school (called *pūrva pakṣa*), which they refuted (*khaṇḍana*) by giving contrary arguments and evidence. Thus, the authors often stated their own thesis (*siddhānta*) by proving that the antithesis was false. There are several instances in history where eminent scholars toured the land challenging proponents of rival schools in open debates (*śāstrārtha*). It is important to note the development of systems of Indian thought through dialogues and debates, for it is through the development of theses and antitheses that rich and elaborate theories developed.

The system of logic that guided the development of theories was distinct from Aristotelian logic, which guided Western thought for over a millennium. Contrary to Aristotle's law of the excluded middle, which denies the rationality of a position between extreme affirmation and extreme negation, the Buddhist philosopher Nāgārjuna (second century CE) adopted a position midway between opposite extremes. The difference between these two approaches to logic is complex and the matter is controversial; and we need not examine this issue. But we may simply note that the distinctive and profound contributions to logic made by Buddhist, Nyāya, and the more recently (twelfth to thirteenth century CE) by Navya Nyāya traditions are widely recognized. The development of the Nyāya system is particularly important in providing guidelines for a disciplined inquiry. This system is sometimes known as *Ānvīkṣikī*, or science of inquiry. Nyāya is known for developing rules on how argumentation should proceed, and hence known as the science of reasoning (*tarka vidyā*). Since it also developed rules for debate, it is sometimes referred to as the science of debate (*vāda vidyā*). This is clearly an important aspect of the Indian tradition; it laid an essential framework for the development of sciences in the sense of systematic inquiry in various fields. The point is that psychological thought developed in India within the context of rigorous logic demanded by these traditions.

Ontological Bases and Epistemological Guidelines for Psychological Theorizing

Over the centuries, varied schools of thought evolved, and the fundamental issue of what constitutes the world was a central issue for most of them. A wide range of ontological doctrines developed as part of their inquiry. The Advaita school, for instance, held that there is a single principle of reality that is essentially indescribable, but can be generally characterized in terms of Being (*sat*), Consciousness (*cit*), and Bliss (*ānanda*). In contrast, the Sāṃkhya system proposed two principles of reality, one characterized by pure consciousness (*Puruṣa*) and the other by materiality (*Prakṛti*). On the opposite end of the spectrum, the Loakāyata school of Cārvāka insisted that matter is the only constituent of reality. The nature of psychological phenomena as conceived within such radically different views of reality was bound to be different. However, despite such highly divergent ontological doctrines, mind was more commonly conceived as fundamentally material in nature. Interestingly, mind and matter were not viewed in dichotomous terms as in the Cartesian scheme, and “mind–body problem” typical of Western thought did not arise in Indian thought. As will be explained later in this essay, a most distinctive feature of Indian perspectives was the concept of pure consciousness that transcended the processes and contents of the mind. Pure consciousness is thought of as having an ontic status beyond mind and matter.

Complex epistemologies developed as scholars criticized rival theses through logical argumentation (*tarka*) and adumbrated their own theses by citing specific evidence in their support (*pramāṇa*). The discussion of criteria for the validation of knowledge claims (*pramāṇa carcā*) is a very significant aspect of the development of theories in Indian thought. An important part of this discussion is the concept of valid cognition (*pramā*) as a proposition that remains unfalsified (*abādhitā*) in face of contradictory arguments and evidence. By and large, empirical statements are considered as having only provisional truth value; they remain open to revision. In the Indian tradition, testing knowledge claims through serious attempts at their falsification has been an integral part of testing theories centuries before Popper popularized the concept of falsification in modern philosophy of science.

Psychological theories are integral part of systems of Indian thought called the *darśanas*. The word *darśana* means a vision, and Sāyaṇa Mādhava's compendium of the principal schools of thought are alternative perspectives on life. Although it is common to consider the *darśanas* of Indian thought are systems of philosophy, whether they present philosophy in the Western sense, or constitute a unique Indian form of thinking called *Ānvīkṣikī*, is a matter of controversy. Whatever be the nuances in ways of thinking in Indian and Western styles, the *darśanas* nevertheless offer broad perspectives on a wide range of issues such as the nature of self, person, cognition, volition, and so on, which are important issues of modern psychology. Even as there are differences in Indian and Western styles of dealing with philosophical issues, there are distinct styles of psychological theorizing. Thus, while in contemporary psychology what matters most is empirical verification of theories, what matters most in the context of the Indian tradition is the application of a theory at experiential and behavioral level as part of a lived reality. As we shall see, Indian theory building commonly proceeds from whole to part, abstract to concrete, and not the other way around. Aside from such "stylistic" differences, there are differences in the assumptive framework adopted in theory building.

Key Concepts of the Assumptive Framework

Foundations for systematic thinking were laid in Indian thought in the *Rg Veda*. There are two basic concepts from the earliest Vedic period that provided firm foundations for later developments. The first, called *ṛtam*, implies fixed and repeatable pattern of events, and the truth inherent in that pattern. The second called *satyam* implies absolute truth. The recognition of fixed and recurring patterns of events implies that the universe is a cosmos, not a chaos. Such a basic and axiomatic assumption implies the lawful relationship among events, and it is a necessary precondition for all systematic inquiry. A clear instance of lawfulness of behavioral events is the notion of *karma*, or action and its lawful consequences. The *Bṛhadāraṇyaka* Upaniṣad (4.4.5)³ declares that "According as one acts, so does he become.... The doer of good becomes good, the doer of evil becomes evil." This is basically consistent with the Biblical

notion "as you sow, so you reap." Although the emphasis here is on the morally lawful consequences of action, in the course of history this basic idea led to a comprehensive view of lawfulness of events in physical, mental as well as moral spheres. The basic idea here is not fundamentally different from the notion of universal laws in science,⁴ except that the Law of karma extends far beyond the physical domain and beyond the scope of "value free science." The domain of truth uncontaminated by values was not unknown to the Upaniṣads, however. In the *Kaṭha* Upaniṣad (2.14), for instance, the young inquirer Naciketas insists on knowing that which is beyond good and bad, beyond right and wrong. As is widely recognized, with the lone exception of the school of the materialist Cārvāka and his followers, all schools of Indian thought, of Upaniṣadic as well as Buddhist and Jain persuasion, accept the Law of karma. This is particularly relevant for psychology insofar it deals with behavior and its consequences.

In later *pramāṇa*-based epistemologies, the concept of *ṛtam* mentioned above has a connotation of truth insofar as the truthfulness of a statement can be affirmed through the observation of a repeatable pattern of events. There is in the *Vedas* the notion of a higher order truth (*satyam*), meaning absolute truth that remains unfalsified at all times (*trikāla-abādhyam*). This does not imply apodictic statements that are open to rational proof and immune to empirical considerations as Kant suggested. Rather, *satyam* implies Truth inherent "in reality" or "in its own existence," and as such is open to direct experience in a trans-cognitive state of consciousness. This idea of a higher order truth is particularly significant for psychology insofar as it is based on a distinctive view of states of consciousness and their noetic significance. It involves a significant contribution of psychology in the Indian tradition, and will be discussed at some length in the remainder of this essay.

Consciousness

The idea of consciousness in the Indian tradition is traced back to the *Rg Veda*. In it there is a hymn called the *Nāsadiya Sūkta* wherein a sage speculates on what may have happened at the time of the origin of the universe. He first suggests that perhaps it all began with some single undifferentiated entity devoid of basic

distinctions such as existence vs. non-existence, death vs. immortality, day vs. night; open air vs. the void beyond, and so on. That something, he speculates, somehow became *aware* of its lonely existence, and a desire (*kāma*) arose in it for becoming many. This primordial desire was the “seed of the mind” (*manso retah*), it suggests, from which the universe evolved. From the point of view of psychology, it is important to note that in this world view, such things as awareness, desire, and mind are taken for granted as *primordial*—and not in need of explanation as products of something else such as matter or evolution of life.

In the *Māṇḍūkya* Upaniṣad, we find an explicit account of four states of consciousness: wakeful, dream, deep sleep, and a fourth one simply called the Fourth State (*turiyā avasthā*). These states are distinguished in terms of being outer directed, inner directed, or directed in neither way. Although both deep sleep and the Fourth State are somewhat similar in not being directed in either outer or inner manner, the Fourth is much different from sleep; it has many extraordinary features. It is described as transcognitive, ungraspable, unspeakable, peaceful, and benign. Most of all, it is said to be the basis of experience of the Self, the unchanging basis of self-sameness underlying the continually changing images of the self. This extraordinary state of consciousness has been held in very high esteem throughout the Indian tradition, and many alternative paths have been suggested for the attainment of self-realization through the experience of such a state of consciousness. We will take up two of the most prominent trends in this direction. The first one is in the Advaita tradition, and the second in Sāṅkhya-Yoga.

In the Advaita tradition, the *Māṇḍūkya* Upaniṣad is followed by Gauḍapāda's commentary on it in the eighth century CE. Gauḍapāda's student Govinda passed on his interpretation to his famous disciple Śaṅkara (commonly called Śaṅkarācārya). Śaṅkara (788–822) proposed a strictly monistic ontology that takes pure consciousness experienced in the Fourth State as the single ubiquitous principle of reality (called *Brahman*). His approach is called Advaita, meaning non-dual, since it is based on the noetic value of the Fourth State in which the subject–object duality is transcended. It is also called the Vedānta system since it is founded on the Upaniṣads, which were composed

toward the end (*anta* in Sanskrit) of the Vedic era. A competing system called the Sāṅkhya finds its initial expression in some of the later Upaniṣads. Based on this lead, Īśvarakṛṣṇa wrote a treatise called the *Sāṅkhya-kārikā* around the second century CE. This system proposes an elaborate conceptual framework with two ontological principles: *Puruṣa*, which involves pure consciousness, as apart from Prakṛti, the principle of materiality. It declares the radical removal of suffering as its goal. This goal is attained, it claims, when a person realizes that the true Self is pure consciousness, and not the body or any other objective manifestations with which the self is commonly, but mistakenly, identified. The Yoga of Patañjali provides clear guidelines for the attainment of self-realization as explained and promised in Sāṅkhya.

Yoga: The Psychology of Higher States of Consciousness

Yoga is a generic term that connotes a theory as well as a wide range of techniques aimed at the removal of suffering and the attainment of bliss and spiritual development. Bodily postures and breathing exercises with which the currently popular image of Yoga is identified are only a small part of a branch of Yoga called the *Hat̥ha* Yoga. The origin of some of the Yogic practices is probably pre-Vedic. An iconic representation of a person in the lotus position found in the ruins of the ancient Indus civilization (about 2500–1900 BCE) is often cited as evidence of the antiquity of Yoga. The use of Yogic practices in spiritual development was well established in Buddha's times, i.e., in the sixth century BCE. Patañjali, who composed the famous Yoga aphorisms (see Woods 1914/1972) around the second century BCE, did not invent the system; he explained the already established methods within a conceptual framework of the Sāṅkhya philosophy. Patañjali's Yoga is concerned with controlling one's stream of consciousness (*citta nadī*) so as to help discover the true Self in the state of pure consciousness. As such, the subject matter of Patañjali's Yoga is clearly psychological, and the tradition avers that it is the most predominant system of psychology that originated in India.

Patañjali's lists of eight means, or steps, leading to its goal are widely known. They include (i) a set of restraints, (ii) a set of observances, (iii) postures,

(iv) breathing exercises, (v) withdrawing of senses from their objects, (vi) concentration, (vii) contemplation, and (viii) a set of higher states of consciousness called the *Samādhi*. Patañjali mentions stability and comfort as the only two criteria for an adequate posture to help stabilizing the mind without being distracted by pain or discomfort. Important from a theoretical point of view are psychological concepts developed in Patañjali's tradition and detailed descriptions of experiences encountered in the progress of practitioners proffered by his followers. Historically important in this context is the work of a series of scholars who wrote glosses and expository commentaries on Patañjali's aphorisms, namely: Vyāsa (second century CE), Vācaspati Miśra (ninth century), Bhojarāja (eleventh century), and Vijñāna Bhikṣu (sixteenth century), among others.

The Concept of Mind and the Technology of Restraining the Mind

Patañjali's Yoga aphorisms and the works of many of his commentators are a virtual treasure trove for Indian concepts of mind and higher states of consciousness. The core of Patañjali's system is the concept of the *processes* of mind (*citta vṛtti*) such as thinking, imagining, recollecting, doubting, determining, desiring, and so on. Patañjali's commentator Vyāsa uses the term mind-river (*citta nadī*), which recognizes the flowing character of mental processes as does James's expression the *stream* of consciousness. The idea of *flow* implies the recognition of continuity in mental states from past through present to future. Patañjali's system suggests that every mental event leaves behind its trace (*saṃskāra*). These traces are thought to be like seeds which get stored in the mind (*citta*). They sprout under appropriate conditions giving rise to experiences and behaviors similar to the original experiences and behaviors that left the trace behind. The *saṃskāras* are thought to remain dormant for indefinite periods of time. Remembering is cited as an example of sprouting of a seed sown previously within the same life cycle. And when an individual is prompted to feel or do something without an apparent connection to events since birth, it is attributed to *vāsanā*, a concept similar to drive in modern psychology. *Vāsanās*, like drives, are thought to originate from events prior to the beginning of the present life cycle, implying the concept of rebirth

and continuity of life across life cycles. *Samskāra* is an important concept in Indian psychological theories in that it is used to connote various cultural devices – such as teaching and rituals – that are designed to shape individual's behavior in a culturally desired direction.

The idea of the *flow* of thoughts in the stream of consciousness has a special significance in Indian psychology. Patañjali's Yoga aims at the attenuation and eventual arresting of the flow of thoughts by deliberate and systematic design. This is accomplished by two principal means: relentless practice (*abhyāsa*), and the cultivation of dispassionateness (*vairāgya*). Postures and breathing exercises are minor aids to ensure that discomforts do not distract the practitioner. A Yogi is supposed to first slow down the flow of thoughts, and then hold attention steadily onto a single thought. Then attention is withdrawn inward from the objects of thought, and taken successively into the inner domains of the mind. Attention is said to pass through meanings and mental images on which the meanings rest, and further inward till it rests firmly at the center of awareness. In this process, an adept is said to experience a graded series of higher states of consciousness called the *Samādhi*.

Attaining Higher States of Consciousness

Samādhi is an important concept suggestive of a series of successively higher states of consciousness. Patañjali describes two major types of Samādhi that arise in succession. In the initial set of states called the *Samprajñāta* Samādhi, the contents of consciousness are retained in experience. When one attains mastery on this state, one obtains the *Asampranjñāta* state, which is devoid of all content. During the course of this progression, the connotative and denotative meanings are dispelled from the mind. Insofar as meanings are added onto the input provided by the senses, what remains in experience are only the sensory images on which the meanings foisted. When even the sensory content is also shed, what remains is only the center of awareness. Finally, attention is made to rest firmly on the center of awareness, thereby providing a direct experience of pure consciousness which reveals the unchanging inner Self.

The central thesis of Yoga is that, while in common wakeful state the sense of self remains identified with

the ongoing thought, the true Self is experienced when the mind is emptied of all content. To put it in Sāṃkhya terminology, when attention is completely withdrawn from objects in the material world as well as from objects of thought, the true Self (*Puruṣa*) is experienced in its nascent form as pure, or content-less, consciousness. The experience of *Samādhi* states does not persist for long periods of time, and a yogi regains normal wakeful state. However, with repeated experience of *Samādhi* states, a complete personal transformation takes place. One no longer feels identified with the passing thought, feeling, or activity, and stops being tossed from elation to depression with successes and failures of mundane life. The person's experience becomes firmly anchored in an unchanging and blissful Self, thereby experiencing a non-diminishing inner calm and peace.

Yoga is not the only system offering a theory of mind; other systems also offer their own theories of mind, and distinctive ways of dealing with the mind. In the Advaita system, for instance, the word *manas*, rather than *citta*, is used to designate the mind's activities. However, the Advaita proposes a distinct technique for dealing with the mind which does not emphasize slowing down the flow of thoughts as in Patañjali's Yoga. Instead, in the Advaita, the mind (*manas*) is defined in terms of the twin processes of cognitive integration (*saṃkalpa*) and cognitive differentiation (*vikalpa*). The Advaitic technique of meditation accordingly focuses on the use of these two mental processes. Thus, it encourages a practitioner to first generate all possible alternative propositions in relation to a belief (*vikalpa*) such as varied self-definitions, and then choose the correct one among them (*saṃkalpa*) according to a specific criterion, namely, the true self is that which remains unchanged (*nitya-anitya viveka*). In other words, the logical principle of agreement (*anvaya*) and difference (*vyatireka*) is employed to put all self-definitions into two separate categories: those that are open to change vs. those that indicate permanence. The search for the true self thus follows a strict process of reasoning (*tarka*), and as such, this approach to self-knowledge is called the path of knowledge (*jñāna mārga*). The journey on this path ends when one discovers that pure consciousness is the only thing that remains unchanged, and hence reveals one's true identity (see Dharmarāja 1972).

A most important feature of the typical Indian view of mind is that the process of thinking is not equated with consciousness. While the ongoing mental processes are recognized as having a conscious character, they are viewed only as part of a broader spectrum of consciousness that includes pure consciousness. This stands in sharp contrast with the Western tradition where the Cartesian equation of consciousness with cogito is taken for granted. Also, unlike Brentano and his followers who insist that consciousness is always intentional, or directed to some object or other, in Indian thought the occasional occurrence of non-intentional states is taken for granted. In the West, there is tendency to consider non-intentional states as either impossible, or as "mystical" and unworthy of attention. But what proof does Yoga offer in support of its claims? According to Vyāsa, the chief commentator of Patañjali's aphorisms (#3.6), Yogic claims can be verified by *doing* Yoga. This is no different from the scientists' approach: their claims can be verified by anyone by replicating the experiment as specified.

Self and Identity

In the history of Indian thought, the self has been conceived of in terms of various aspects of selfhood. That selfhood often manifests itself in terms of the sense of "me" and "mine" with the attendant feelings of pride, and egotism (*garva*) is expressed by the concept of *ahamkāra*. The connotation of this term is similar to that of ego in modern psychology insofar as both indicate the sphere of self-love and its boundaries. That the individual's sense of belonging and attachment is usually spread over different spheres is expressed in Advaita by the concept of person (*jīva*) as multilayered entity represented by five concentric "sheaths" or layers like those in an onion. The outermost layers are (i) the bodily self ("made of food": *annamaya kośa*), followed in sequence by (ii) physiological functions driven by the life force (*prāṇamaya*), and by (iii) mental (*manomaya*), and (iv) higher cognitive (*vijñānamaya*) layers, with (v) blissfulness (*ānandamaya*) as the innermost core. To put it in contemporary terminology, what it means is that the sense of self manifests in the identification of the "I" with the body, with the functions and conditions of the body such as yawning in tiredness or feeling fresh and

energetic, with one's auditory, visual and other sensations, with ongoing thoughts, and with innermost feelings such as bliss.

A parallel conception of the manifestation of the self in one's thoughts, feelings, and actions is expressed in the Advaitic idea of the person as a knower (*jñātā*), enjoyer/sufferer (*bhoktā*), and agent (*kartā*). Paranjpe (1998a) has shown how such conceptualization has selective parallels in modern perspectives in psychology such as those of William James, G.H. Mead, Cooley, and others. But the most distinctive concept of self in Indian thought is that of *Ātman*, which, to put it simply, implies a *transcendental self* at the center of awareness. The *social* nature of the self is implied in the portrayal of important characters of the epics *Rāmāyana* and the *Mahābhārata* as players of multiple roles within the immediate family, as members of an extended kin group, and as players of political, military, and other roles in kingdoms spread across the subcontinent and beyond.

Aside from the concepts mentioned above, the concept of *Ātman* is an important concept regarding the nature of self as conceived of in Indian thought. It is somewhat similar to William James's (1890/1983) concept of the Pure Self, by which he means "the inner principle of personal unity" (p. 324). But unlike James who concludes that the ultimate inner principle of selfhood is just the passing Thought of a given moment and nothing beyond, the *Ātman* implies pure consciousness experienced when the mind is emptied of all Thoughts. The *Ātman* is one of the central concepts of the principal Upaniṣads, and the active search for the essence of selfhood is arguably the core of Upaniṣadic psychology. The central thesis is that the core and essence of selfhood is "pure" consciousness experienced in higher states such as the *Samādhi* explained before. The intricate relationship between self and pure consciousness centers around the question of what, if anything, accounts for the unity and sameness of self amid the many, varied, and continually changing images of the self one experiences throughout the life cycle. That the self is simultaneously one and many, same and yet changing is a paradox. It is a conundrum with which some of the greatest minds of the world have struggled. It has been called the "problem of identity." The Advaita position adumbrated in a medieval text called the *Dṛg-dṛśya Viveka* (n.d./

1931) is that the principle of unity and self-sameness is the self-as-subject as opposed to self-as-object. In other words, the *Ātman* is that which experiences, and not anything that is experienced whether in the form of sensation, thoughts, dreams, or feelings.

The thesis that self-as-subject is the foundation for, and the essence of, selfhood is one of the central features of the Indian tradition. As noted earlier, according to the *Ṛg Veda*, consciousness is the *primordial* principle of the universe; it is from the *awareness* of the original One of its lonely existence that the entire course of evolution started. And according to the Upaniṣads and its Advaitic followers, whatever exists (*sat*) is but a manifestation of Consciousness (*cit*), the fundamental principle of reality. Human beings, as part of this pervasive principle, have Consciousness at their very core. Besides, this principle is blissful (*ānandamaya*) by its very nature. Advaita, along with Sāṃkhya and varieties of Yoga, have devised spiritual practices that promise to help discover the Bliss at the center of awareness. Indeed, the Divine is often defined in terms of Existence (*sat*), Consciousness (*cit*), and Bliss (*ānanda*).

Although this is one of the dominant views of the nature of self in Indian thought, there is great diversity of opinion on this. Indeed, in the history of Indian thought, there has been an unending debate over it. On one side of the debate is the strong affirmation of the *Ātman* as the principle of the unity and sameness of a transcendental Self in the Upaniṣads, followed by a long tradition of Advaitic thinkers. On the opposite side is an equally strong denial of the Self by numerous scholars of the Buddhist tradition. The Buddha was well aware of the Upaniṣadic claim that there was an unchanging basis underlying the changing images of the self and that it was blissful in nature. According to Dasgupta (1922/1975), "We could suppose that early Buddhism tacitly presupposed some such idea. It was probably thought that if there was the self (*attā*), it must be bliss" (p. 109). However, as Dasgupta points out, Buddha's conclusion was the converse of this idea: "that which is changing is sorrow, and whatever is sorrow is not self" (p. 110). The doctrine of no-self (*anattā*) is one of the central theses of Buddhism. It involves a complex thesis expressed in various ways in writings ascribed to the Buddha, and also in the writings of scholars of many schools of Buddhism. There

is vast amount of literature on just this topic in Buddhism. It is neither possible nor necessary here to summarize what does the denial of self in Buddhism means, and how the doctrine stands in relation to the Advaitic affirmation of the self.

Putting the concept of self in a comparative context, we may note that the debate in the Indian tradition between the denial and affirmation of the self has a Western parallel. Thus, David Hume's famous denial of the self has Skinner (1974) as a follower of sorts in modern psychology, while on the opposite side, Erikson's (1968) view of the ego identity echoes Kantian affirmation of a transcendental ego. The comparisons among such apparent similarities and parallels are tricky. For upon closer examination, one finds that what is denied or affirmed, and on what grounds and to what consequence, is different in each case. A detailed discussion of the similarities, apparent or essential, can be found in Paranjpe (1998b).

Person and Personality Typology

The concept of self must be grounded in that of personhood; it cannot exist in a vacuum. In the Upaniṣadic tradition, the human individual is usually referred as *jīva*, which literally means a living being. All living beings are viewed as conscious, whether at a lower or higher level. In the Advaita tradition, the individual or *jīva* is conceptualized as a knower (*jñātā*), an experiencer of feelings (*bhoktā*), and an agent (*kartā*). In other words, a person has three fundamental capacities: of cognition, affect, and volition. This view clearly parallels the idea of person in John Locke and his followers.⁵

That persons have distinctive and stable characteristics is well recognized. In the *Bhagavad-Gītā* (5.14), for instance, it is suggested that the individual's own character (*svabhāva*) generally prevails, although it is not considered to be fixed and unalterable. The *Gītā* (as the *Bhagavad-Gītā* is commonly referred to) suggests three types of personality following the conceptual framework of the Sāṃkhya system. In it, everything in the material world (*Prakṛti*), including persons, manifests each of three basic "strands" or components: light or enlightenment (*sattva*), energy (*rajas*), and inertia (*tamas*). Although each of the three components is present in everybody and everything, individuals differ in terms of the relative dominance of the three. There

are extensive descriptions in the *Gītā* of persons in whom one of the three strands or qualities is dominant. In Buddhism, the concept of person is designated by the term *puggala*. An old Buddhist text called the *Puggala-Paññatti* describes various personality types based on their eligibility for spiritual development (Law 1922). The Indian medical system called the *Āyurveda* suggests three types of personality based on the relative dominance of three humors (*kapha*, *pitta*, and *vāta*) that are said to constitute the human body. Each type is described in detail in terms of the features of the body as well as behavioral characteristics, and this typology is used in diagnostics. These typologies are amenable to empirical research, and tests have been developed in this context (Murthy and Salagame 2007; Wolf 1998).

Personality Development and the Ideal Human Condition

A persistent theme of the Indian culture is that, on the whole, suffering exceeds pleasures and happiness. In the epic Mahabharata, the story of Yayāti, a mythical king, conveys that his appetite for pleasures could not be satisfied despite all his wealth and power, and despite borrowing his son's youth in his old age. The point of the parable is that desires are not sated by indulgence; expectations keep growing like fire fed by fuel. Buddha's message was not much different. Despite such rather pessimistic view of the human condition in some important classical sources, the thrust of the culture as a whole is far from kill-joy. In fact, the four goals in life that the Hindu tradition prescribes include not only spiritual liberation (*mokṣa*) and doing one's duty (*dharma*), but also pursuit of wealth and power (*artha*) and the pursuit of sensual pleasures (*kāma*). India is a land in which Lakṣmī, the Goddess of wealth, is unabashedly worshipped, and its culture produced a superb text of sexology called the *Kāma Sūtra*. Moreover, despite the oft-repeated message that the pursuit of pleasures often leads to a negative balance, the assumption has been that it is possible to overcome all common sources of suffering, and attain a state of undiminishing inner peace and bliss. The desired end point is a transcendent state, a stasis, not perpetual progress. Unlike the concept of perpetual progress implied in the currently popular idea of ever-growing gross national product, the ideal of individual and

social life in the Indian tradition is that of a sustained stability. To put it in different words, the ideal of human life is not self-actualization, meaning an expression of unlimited inner potentials manifest through an ever-increasing level of accomplishments – as is implied in Western thinkers from Aristotle to Abraham Maslow. But rather the ideal is self-realization through the inner experience of an unchanging basis for selfhood.

This basic theoretical principle is complemented through a variety of techniques, ways of life, or methods of spiritual development that form the core of applied psychology of the Indian tradition. The conceptualization of person as knower, enjoyer/sufferer, and agent has been used to develop distinct methods for spiritual development. These are based on sophisticated theories of cognition, emotion, and volition, and are, respectively, called as the Path of Knowledge (*Jñāna Yoga*), of Devotion (*Bhakti Yoga*), and Action (*Karma Yoga*). Each of these deserves a brief account.

Cognition and the Path of Knowledge

To properly understand the traditional Indian view of cognition, it is necessary to view it in the context of the distinctive world view in which it is embedded. In his introductory section (called the *Adhyāsa Bhāṣya*) of his famous commentary on the Vedānta aphorisms, Śaṅkara (n.d./1977) conceptualizes all living beings (*jīva*) as individualized centers of awareness reflecting the universal and infinite consciousness of the ultimate reality called Brahman (Rao 2002). In its individualized form, consciousness suffers from the inevitable limitations (*upādhi*) of the capacities of the sense organs and cognitive apparatuses typical of the species to which the individual belongs. Within each species of organisms, each individual may have deficiencies of its own, which characterize the conscious experience of that particular individual.

According to the Nyāya and Vedānta systems, humans are born, like animals, with a capacity for perception devoid of concepts and words (*nirvikalpa pratyakṣa*), but develop the capacity for the use of concepts and words (*savikalpa pratyakṣa*) during the course of development (Datta 1932/1972). Given the intrinsic limitations of the sense organs and cognitive capacities, humans cannot obtain complete knowledge

of most objects, let alone of an entire class of objects. As Śaṅkara explains in *Adhyāsa Bhāṣya*, all new knowledge is “veiled” (*āvaraṇa*) by existing knowledge; the new incoming information is “filtered” and is received only partially rather than fully. Reciprocally, what is known from previous experience is often “projected” (*vikṣepa*) onto what is newly encountered. To compensate for the deficiencies in cognition, and to fill in the gaps in the information available, humans make use of imagination (*kalpanā*). Thus, most human perception is *savikalpa pratyakṣa*, i.e., it involves at least some element of imagination. This added element involves, among other things, concepts and names given to classes of objects; thus, human cognition is mostly “constructed” or fabricated.

Based on this view of human cognition, Śaṅkara draws far-reaching implications for all human knowledge. What we know about the world (*jagat*) starts with intrinsic and inevitable limitations of our cognitive apparatus, and although we keep on adding new knowledge with experience and reasoning, what is incomplete at start continues to be incomplete despite continual improvements. He forcefully suggests that all empirical and rational knowledge based on transactions with the world (*vyavahāra*) is forever revisable and forever imperfect. This view of knowledge, it may be recognized, is basically compatible with the contemporary notion that scientific knowledge is forever revisable. Similarities between Śaṅkara’s and Piaget’s views of cognition and knowledge are particularly striking (see Paranjpe 1998a). Śaṅkara uses the Upaniṣadic term “*avidyā*” to designate the entire domain of rational-empirical knowledge. Following the *Īśa* Upaniṣad (9–12), Śaṅkara mentions a different kind of knowledge, called the *vidyā*, which is transcendental (*parā*), and is unconstrained by the contingencies of empirical knowledge. Knowledge at this higher level reveals absolute Truth (*satyam*), while rational-empirical knowledge reveals empirical generalizations that reflect a repeatable pattern (*ṛtam*) – which is true as long as it remains uncontradicted by a new set of observations or a fresh insight. Such an idea of two levels of knowledge is a matter of epistemology that many psychologists today would happily leave for philosophers to deal with. Nevertheless, the concept of transcendental knowledge should be of interest to psychologists insofar as the method developed for its attainment involves

a psychological technology. The technology relevant here is the same as the Advaitic method for self-realization.

Inspired by the teachings of the *Bṛhadāraṇyaka Upaniṣad* (2.4.5), the Advaitists advocate the following strategy to help discover the true Self hidden behind the changing images of the ego: (1) Study of the principles of Advaita (*śravaṇa*), (2) relentless critical examination of all self-definitions to see if they are open to change or not (*manana, nitya-anitya viveka*), (3) deep contemplation (*nididhyāsana*) of what is thus learned. In the course of critical examination, self-definitions based on identification with things, personal relations, or even values that often appear nonnegotiable change sometimes due to changed circumstances, sometimes by choice. It is gradually recognized that all objective self-definitions are open to change; it is only the awareness that underlies all understanding that remains unchanged. When this understanding sinks in deeply, an extraordinary state of consciousness called *Nirvikalpa Samādhi* is experienced. This is the same as the Fourth State in which the subject–object duality is transcended, and higher knowledge (*parā vidyā*) is attained.

This higher knowledge cannot be expressed in words, but the process of arriving at it can be expressed in cognitive terminology. One way of describing the process is to suggest that, at the beginning of inquiry, the self is accounted for in the form of an autobiography, and an attempt is made to see who its author is. If one compares what one thought of oneself at the age of say 15 and then at 20 or 50 and so on, it becomes clear that the author of the first description is not quite the same as the author of the later accounts; she or he has kept on changing. It is gradually recognized that autobiographical narrative is cognitively and socially constructed, and further that the surface structure of the knower is a set of cognitive structures and processes that are undergoing continual change. What accounts for true identity, i.e., self-sameness, is only the passive witness of the drama of life presented to an indescribable “I” at the center of awareness. In this process, the ego, or one’s view of the self and his/her world is “deconstructed” in a far more rigorous and radical manner than what is suggested in the postmodern idea of deconstruction.

What happens to the person who successfully deconstructs her or his ego? The *Śvetāśvara Upaniṣad* (4.8) describes the situation in a metaphor in which there are two birds perched on top of a tree: one of which is eating and enjoying a fruit while the other one is simply watching. The first one is the ego; it is involved with the world and cyclically enjoys or suffers with gains and losses as life unfolds. Self is the other bird dispassionately witnessing the ups and downs without being affected by them. The trick is to cultivate a dispassionate stance of an uninvolved witness of the drama of life. By doing so, one can experience inner peace and calm in an uninterrupted manner. This method of attaining trans-cognitive knowledge requires capacity for critical thinking and relentless effort in self-examination. It is not found easy by many people, although there are many examples throughout history of sages who have successfully followed the Advaitic strategy and attained self-realization. One way of understanding self-realization thus attained is to view the ego as a region marked by a boundary, a boundary between the self and the surrounding world, between self and the “other.” Repeated self-examination brings home the point that self concept is acquired in the process of socialization, and is continually modified under the influence of various factors. The boundaries between the Me and the not-Me are continually redrawn through interpersonal interaction, gains and losses, and individual will. In other words, ego boundaries are continually constructed and reconstructed. More specifically, they are open to deliberate modification – or “deconstruction.” Constant questioning of the place of Me and not-Me in the course of relentless self-examination, the ego boundaries lose their force, and get ultimately dissolved.

Great saints, who attained self-realization, have described their experience in poetic expressions. For instance, in a famous poem, the fifteenth-century saint-poet Kabir says that being in the world is like a pot in an ocean; there is water inside and water on the outside. Similarly, the modern Bengali saint Ramakrishna Paramahansa (1836–1886) describes self-realization metaphorically; he says that the ego dissolves like a doll made of salt immersed in water. In other words, the Me and not-Me distinction simply goes away. Correspondingly, the behavior of such self-realized

individuals shows a complete transformation of personality. Saint Kabir, for instance, was completely above the Hindu–Muslim divide, which was strong in his days, and taught to view individuals as human beings first, and then in terms of Hindu, Muslim, or other such categories. Ramakrishna is known to have practiced spirituality as taught by Vedāntic, Sufi, and several other traditions, and pointed out the commonalities in their teaching. The limitless compassion of such saints is a clear manifestation of their shedding of ego boundaries. Paranjpe (2008) has examined the biography of a modern sage and saint called Sri Ramaṇa Maharshi (1879–1950) to illustrate how the quest for and attainment of self-realization can manifest in a particular individual.

Emotion and the Path of Devotion

While the path to self-realization mentioned above focuses on the use of one's cognitive capacities to deconstruct the ego, a different way proposed since ancient times emphasizes the transformation of emotions. The key to this approach is to totally surrender one's ego in a strong emotional relationship with the Divine. The tradition of devotion to Lord Kṛṣṇa is traced back some four millennia to the Tamil poetry of Ālvār saints. A basic outline of this perspective is found in a medieval treatise called the *Bhāgavatam*, which mainly describes the life of Kṛṣṇa as he grew up among poor cowherds in a small village. The hero is shown in endearing relationships with his adoptive parents, playmates, and in particular in amorous relationships with several young milkmaids. The thrust of the story is to show how normal relationships involve innumerable shades of love which have great potential for self-transformation. It is shown how intimate relationships in paired social roles such as parent and child, mutual friends, and especially lovers, offer opportunities to transform the ego by immersing it in a mutual bond of self-giving. When the emotions are exceptionally strong, as in love between man and woman – whether in licit or illicit relations – the ego of the lover can completely merge with that of the counterpart. When love is directed to a divine being, as Kṛṣṇa, the result of total surrender of the devotee's ego is the experience of limitless and unending love. Indeed, the *Bhāgavatam* suggests that even hatred for the divine can ultimately lead to the same result as intense and

unconditional love. The devotional approach to God-realization is explained in a well-known work called the *Nārada Bhakti Sūtra*.⁶ As we shall see, this view of religious devotion was developed in the sixteenth century on the basis of a theory of emotion that had its origin in an effort to understand the transformation of emotion in witnessing dramatic productions.

Understanding the Nature of Emotions and Their Transformation

In the history of Indian thought, a systematic analysis of emotions was provided by Bharata Muni, in a treatise called the *Nāṭyaśāstra* (n.d./1992), meaning the science of drama, composed within two centuries before or after Christ. While writing mainly as a guide for authors, directors, and actors of plays, Bharata deals extensively and in depth with human emotions. He identifies eight basic emotions, which he considers as relatively lasting and common to humans as well as other animals. He also describes 32 relatively transitory emotions along with their facial and physical expressions. A more important theoretical contribution of his work is the concept of *rasa*, which is roughly translated as aesthetic relish or mood. This theory was extended greatly by a great Kashmiri philosopher called Abhinavagupta (ca. 990–1020). There is a long tradition of scholars, which continues till this day, that follows the lead of Bharata and Abhinavagupta in the fields of aesthetics, poetics, dramatics, literary criticism, and various aspects of dance and other art forms.

Scholars in the tradition of Bharata Muni raised a simple but important question: Whose are the emotions that are experienced while witnessing a play? It was reasoned that they do not *exclusively* belong to either the playwright, or the actor (both of whom may not have experienced the pangs of separation which the play portrays), or the character (who could be imaginary), or by the audience (by a honeymooning couple witnessing separation, for instance). The conclusion is that the emotions experienced in a playhouse are *shared* in common. The concept designed to express this idea is the generalization (*sādhāraṇīkaraṇa*) of emotions. Another important observation in this context is the fact that the basic emotions such as sorrow, fear, and disgust are *transformed* in the process of their dramatic or other artistic presentation so as to lose their “sting,” or negative character. They are converted

into aesthetic moods (*rasa*) of respectively pathos (*karuṇa*), horror (*bhayānaka*), and the odious (*bībhatsa*), which are “enjoyable” by the aesthetes in the audience. The theory is developed further to explain why and how the vicarious experience of the spectators loses the negative character of the basic emotions as experienced in real life. It is suggested that the spectator leaves home, so to speak, her or his daily concerns and ego-involvements with situations that lead to such negative emotions, and the ego-distancing in the process allows for “relishing” of previously experienced “sting” (Dhayagude 1981).

Over the centuries, the development of the *rasa*-thesis (*rasa-siddhānta*) has gone through a series of heated controversies, revisions, modifications, and continued enrichment, and the process continues till this day. A few distinctive features of this theoretical position may be noted in the non-Indian context. *First*, the concept of the generalization of emotion implies that emotions do not belong only to the brain or bodily tissues of individuals; they are socially shared trans-individual phenomena. The underlying ontology is clearly far from the physicalism implied in many contemporary approaches. *Second*, the *rasa* perspective is closer to recent views of social emotions compared to the psychophysiological theories. *Third*, given its attempt to explain transformation of emotion with reference to the ego, it becomes open to use as basis for practical applications. In conformity with the long-standing trend, the practical application was found in the spiritual context.

In the sixteenth century, two scholars of the Guḍīya Vaiṣṇava tradition named Rūpa and Jīva Gosvāmī used the theory of *rasa* to help understand and advance religious devotion. Taking the lead from the *Taittirīya* Upaniṣad, which says that the Brahman is the essence (*rasa*) of reality, they use the *rasa* theory in Bharata’s tradition to help explain self-transformation through religious devotion to Lord Kṛṣṇa described in the *Bhāgavatam* as indicated above. Rūpa Gosvāmī (n.d./1981) and Jīva Gosvāmī (n.d./1986) suggested that the artistic portrayal of emotions have the potential for experiencing shared emotion by temporarily overcoming ego boundaries. When a devotee takes for herself or himself the role of a lover, sister/brother, child, servant, student, or whatever vis-à-vis the divine, and plays that role intensely, the devotee can merge with the Lord,

who is the Supreme Self (*Parama-Ātman*). It is important to note here that the concept of divine as defined in the tradition of devotion (*bhakti*) is that God is celestial love, a supreme *rasa* that fills the universe. He is an immanent principle that is said to sometimes manifest in human form. He is not a transcendent creator who controls the universe and punishes humans who disobey Him. The stories of divine beings, such as that of Kṛṣṇa in the *Bhāgavatam*, can serve as aids in total self-transformation through religious devotion. The Gosvāmīs were careful to specify, however, that while the joy in the experience of art was somewhat similar to the greatest Bliss of Brahman, it is not the same (Paranjpe 2009).

Volition and the Path of Action

As noted, the typical Indian term for action is *karman*, and the Law of karma is accepted by almost all schools of Indian thought, except for the materialist school of Cārvāka. The concept of free will is implicit in the notions of *karman*. This is succinctly expressed by Śaṅkara (n.d./1977) in his *Brahma Sūtra Bhāṣya* (1.1.2), where he defines *karman* as action which one can choose to do, not to do, or to do in different ways. According to the Law of karma, *all* actions have their natural consequences sooner or later, whether during the life time of the agent or sometime during later incarnations of the individual. The *Bhagavad-Gītā* (1963) (18.14) suggests five distinct factors that determine the nature of the consequences of every action: (i) the context in which it is done (*athiṣṭhāna*), (ii) the agent (*kartā*), (iii) the instruments available for performing the action (*karṇam ca prthagvidham*), (iv) the specific movements involved (*vividhāḥ prthak ceṣṭāḥ*) and finally, (v) the working of divine providence (*daivam*). The *Gītā* (18.15) adds that persons often do not realize the degree to which all these factors jointly determine the outcome, and egotistically tend to take all credit for success to themselves. It goes further to observe that what makes the action “binding” on the individual agent is the ego-involvement and passionate craving for the results of her/his actions. As long as the craving for desired results persists, the individual faces the inevitable consequences of his actions, then new actions and their consequences follow, and the individual gets inextricably bound with the perpetual cycle of actions and their consequences.

On the basis of such theoretical formulation, the *Gītā* proposes a practical strategy for the emancipation of the ego from the perpetual *karmic* cycle. Although it may not always be possible to perform actions without any intended goal, one can get rid of the craving and insistence for the intended fruits. One should rather learn to derive pleasure in doing the right actions, and leave it to nature to produce their lawful consequences. With the cultivation of increasingly dispassionate attitudes, the ego can be gradually freed from the clutches of the *karmic* cycle. To put it into contemporary terminology, whereas ordinarily behavior is conditioned and controlled through environmental factors, Karma Yoga offers a way for emancipating oneself from environmental control through a self-administered process of systematic “deconditioning.”

Person as a Social Being

On the first blush, it might appear that a typical Indian theory of personality, such as the Upaniṣadic and Advaitic view of person as *jīva*, is lacking in adequate attention to the social aspect of human beings. However, the opposite is true. An important aspect of the pervasive and persistent Indian world view, which is accepted by virtually all schools, is the concept of *dharma*, a concept that implies that the social aspect of human beings is an integral part of the very nature of reality. *Dharma* is one of those terms that are hard to properly translate into English. Its usual translation as religion is highly misleading, for the term religion has an inescapable connotation by the nature of Abrahamic religions, as a perspective on the sacred that is defined by one God promulgated by one Prophet, and explained in one Book. This connotation is not applicable to Hinduism, Buddhism, Jainism, Sikhism, and a myriad of sects of Indian origin, although these are commonly designated by the term religion. We need not here discuss the complex issue of what makes for the difference in the so-called “religions” of Western and Indian origins. To help understand the typical Indian perspective on the social nature of human beings, it is necessary to understand the concept of *dharma*.

Traditionally, *dharma* is defined in different ways: as duty, charity, something that “holds” the society together, as natural property of an individual or of a thing, and most importantly, as a society’s ethos.

There is a natural pairing of the term *dharma* with that of *karma*. A historical overview of these concepts is ably presented by P.V. Kane (1968) in a set of volumes titled the *History of Dharma-śāstra*, i.e., history of the “science” (*śāstra*) of *dharma*. While the concept of *karma*, as explained before, suggests lawfulness of all events in nature, *dharma* correspondingly indicates orderliness of life in society. What accounts for social order is a community’s ethos, or a set of guidelines for behavior that are consensually supported. A society “holds itself,” so to speak, to the extent that people follow rules designed for the welfare of society with a sense of duty – and that is what *dharma* is all about. In a spirit similar to Aristotle’s notion of man as a political animal, the common Indian view of human beings is that they are social animals. Insofar as this is widely presumed, it is part of tacit knowledge and as such in no need of explicit statement.

In the Indian tradition, social ethos is conceived of in two distinct sets of rules: one general and meant for all, and the other specific to a category of people in a certain role or a stage of life. The *Taittirīya* Upanisad (1.5) lists a set of prescriptions common to all (called the *sāmānya dharma*): that one must speak the truth, do one’s duty, never miss opportunities for learning, have respect for parents, offer hospitality to guests, and so on. It is recognized, however, that the right behavior for individuals in society requires guidelines appropriate to one’s station in society. It is taken for granted that behavior must be understood in its *context*, defined by space (*deśa*), time (*kāla*), and capacity and eligibility of the person (*pātra*) as appropriate to the context. Persons who play reciprocal roles such as teacher-student, parent-child, young-old, master-servant have differing obligations and duties toward each other, and hence their conduct must be judged by standards appropriate to their specific role. This idea of variability in the rules of conduct is encapsulated in the expression “*varṇāśrama dharma*,” which means duties and obligations appropriate to the different divisions of the society such as priest, warrior, trader, and worker (*varṇa*) and according to one’s stage in the life cycle (*āśrama*): that of the student, householder, a retiree, or a renunciate. Such rules are, again, considered not fixed for eternity, but as revisable from one era to the next. The ethical code was not viewed as fixed like the Ten Commandments as God-given and fixed, but

rather as a matter of conventions that keep changing with time as societies continue to evolve. Each era is supposed to have its own ethos, which would be codified by scholars on the basis of how the wise men of the times behaved. It is widely understood in recent times that the traditional division of the society hierarchically ordered with the priestly Brahmin caste at the top is a thing of the past; the current ethos is reflected in the constitution of the Indian republic. Unlike the old “*varṇāśrama dharma*,” which implied social inequality, the ethos of the present – the *yuga-dharma* of modern times – insists on egalitarian equality.

Traditionally, the two great epics of India, the *Rāmāyaṇa* and the *Mahābhārata*, provide in-depth portrayal of social life, the former emphasizing the social roles within family and royal contexts, while the latter offers an understanding of a society in turmoil and transition against the backdrop of a major war with rival cousins as main combatants. While these works may not be seen to offer formal theories of social psychology, they do offer deep insights into the nature of human social life. A formal theory of social conflict is offered by Kautilya (n.d./1992) in his classic treatise on statecraft called the *Arthaśāstra*. The relevance of this work for contemporary theorizing about social conflict is recognized by LeVine and Campbell (1972) in their book on ethnocentrism.

Theories of Language and Meaning

Language was an important topic of scholarship in the Indian tradition. It was initially part of the exegesis of the ancient Vedas. The study of grammar became an important part of any attempt in the study of a text, scriptural or otherwise. Pāṇini, who wrote a comprehensive grammar of Sanskrit, is now recognized as a great grammarian, and the influence of his work on modern linguistics is widely acknowledged. An important perspective on language is offered by the *sphoṭa* theory, which tries to explain how meaning “bursts forth” in the process of linguistic expression. Philosophical and psycholinguistic implications of this ancient theory have been recognized in recent scholarship (Coward 1980; Coward and Kunjunni Raja 1990).

Overview and Styles of Theorizing

Notwithstanding the great diversity within and between Indian and Western psychological theories,

certain dominant features stand out as distinctive of each tradition. The prominent features of theories of the Indian tradition may be identified in terms of the ontological presumptions, epistemological choices, overarching goals, and matching approaches to practice.

In terms of the ontological theses that provide the primary foundation for theories, the Indian tradition has generally favored the presumption of the primordial and irreducible nature of consciousness, while this is not the case in the West. India did not witness anything like the “mind–body problem,” which has remained unresolved, and material monism, which is strong in contemporary psychology, is accepted in an insignificant minority in the Indian tradition.

A most distinctive feature of epistemological foundations of psychological theories in India has been the acceptance of the noetic value of the higher states of consciousness. While followers of the Upaniṣadic tradition have insisted that the highest state of consciousness is blissful and holistic (*pūrṇa*), Buddhists have equally strongly insisted that the highest state is characterized by emptiness (*śūnya*). And regardless of their irreconcilable differences on such important issues, both camps have equally valorized the higher states. The higher states of consciousness are considered the basis for both, the highest form of knowledge as well as the culmination of highest happiness. Consistent with the value of higher states of consciousness, contemplative practices of Yoga in one form or another is integral part of praxis among followers of Hinduism, Buddhism, Jainism, Sikhism, and so on. The dominance of such spiritual goal does not mean the neglect of mundane goals as is illustrated by theories in the areas of social conflict, language, and sex. At any rate, the overall thrust of application of psychology in most schools of Indian thought is self-control, and not on controlling someone else or something in the environment.

The most dominant form of theory building is holistic and “top-down” in approach. Thus, in the Advaita, Sāṃkhya-Yoga, as well as Buddhism, one starts with a global view of reality, of the individual human being as a whole, and one aims for the attainment of ultimate happiness. This approach stands in sharp contrast with the “bottom-up” approach typified by behaviorist psychology where one starts with

a molecular unit such as stimulus-response, and strives to develop an understanding of increasingly complex forms of behavior. This observation, based on a long-range historical account of the development of psychological theories, is interestingly consistent with the observation by Nisbett et al. (2001) that cognitive styles of individuals from Eastern cultures tested in the laboratory tend to be holistic rather than analytic. Hajime Nakamura (1964) has made similar observations about dominant aspects of Eastern philosophies, which goes on to indicate the deep influence of culture on philosophical and psychological thinking.

Notes

1. A brief sketch of the major currents of psychological thought through this early period of history is provided by S.K.R. Rao (1962). References to psychological topics discussed in classical literature were compiled by Jadunath Sinha (1934/1958). Overviews of the classical literature are available in works on the history of Indian philosophy by Dasgupta (1922/1975) and Radhakrishnan (1927/1931), and in a series of encyclopedic volumes on important works in Indian philosophy under the editorship of Karl Potter. Bibliographic details of the first nine volumes published in this series since 1970 and a brief account of the ongoing series may be found on the World Wide Web at http://www.infinityfoundation.com/encyc_philosophy.htm.
2. The precise dates of these works are not known. The approximate period in which these texts were composed are: *Artha-śāstra* (fourth to third century BCE), *Kāma Sūtra* (first to sixth century CE), and *Nāṭya-śāstra* (first century BCE to third century CE).
3. For English translations of the principal Upaniṣads, see Radhakrishnan (1953/1994). Unless otherwise stated, translations of quotations from these texts are from this source.
4. For theoretical significance of the Law of karma see Potter (1980).
5. For a detailed discussion of Indian and Western views of personhood, see Paranjpe (1998a).
6. As is true of many old Indian texts, the date of the *Nārada Bhakti Sūtra* is not known. English translations of this work are widely available. See, for example, Tyāgīśānanda 1972.

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Psychology of Alexander Bain

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Bain published the first part of his *Psychology*, *The Senses and the Intellect*, in 1855, and the second part,

The Emotions and the Will, in 1859. John Stuart Mill and Herbert Spencer both wrote reviews. Mill was not only a good friend of Bain, but had personally guaranteed the publisher against loss from the venture, and he set the tone of his review in a terse opening sentence: “The sceptre of Psychology has decidedly returned to this island” (Mill 1859, p. 287). Spencer had no conflict of interest except the challenge to his own prestige. His review (Spencer 1860) was severely critical, and it described Bain’s book as “not in itself a system of mental philosophy . . . but a classified collection of materials for such a system” (1864, p. 301). The analytical passages, he said, are “incidental – they do not underlie the entire scheme, but are here and there added to it” (p. 317).

Scholars generally still see Bain through Spencer’s eyes, as an industrious author who borrowed freely, organized skillfully, but lacked the genius needed for theoretical contributions of high order. Thus, Flugel (1933) says that Bain was “dogged and persistent,” “lacked originality,” and “owes his place in history to his power of laborious collation of data and systematic exposition of results rather than to any striking ability either to discover the facts or to interpret them” (p. 79). Heidebreder (1933) says that Bain’s “importance lies so much in any specific contributions, . . . any particular theory or doctrine, as in the fact that his two books constitute a systematic and scholarly exposition of classic associationism at its height” (p. 57). Boring (1950) says that “there was never any school or great theory that derived from him” although he “anticipated much of later psychology.” Hearnshaw (1964) credits Bain with “seminal ideas” but adds that he failed to develop them and probably did not recognize their significance. So we have this paradox: a dogged and persistent worker who neglected to develop his own ideas, who achieved an influential textbook by the exercise of laborious collation, and who anticipated the future but originality.

The theme of my discussion might be taken from the rambling final sentence of Mill’s review. It was directed to those who found Bain’s empirical approach unacceptable, and it advised them that even if they were not “disposed to take up their abode” in the edifice which Bain had constructed, they should nevertheless give it careful study, for “so massive a pile, so rich in the

quantity and quality of its materials, cannot be used even as a quarry without abundant profit.” The advice is still timely, and it seems appropriate because Aberdeen, the city of Bain’s birth and death, has been a world center for granite quarrying since about 1600. I propose to take you quarrying, as it were, in the writings of Alexander Bain, and to inquire how many of the building blocks of modern psychology might have been taken from that source.

Aberdeen was also a very early center of paper manufacture, and during the eighteenth century became a center of textile industries. Historians, however, will better remember that Francis Galton, who fearlessly measured things sacred as well as profane, put Aberdeen “on the map” in a different sense, by stating that of all the cities in the British Isles had the plainest women (Pearson 1924, p. 341).

Bain’s asthma-ridden mother was doubtless one of these, a weaver’s wife who bore eight children, of whom only this one would live past 40. His father found Sunday sermons too mild, and he invariably added a Sabbath lecture in which he assured the members of his family that they were all bound for hell. (Bain’s (1904) *Autobiography*, will be used freely without further reference).

Bain had the usual parish schooling available to poor children in Scotland. His swift progress was a burden to the schoolmaster, who gave him an algebra text and freedom to shift for himself. When the pupil needed help with a difficult problem, the harassed master would provide the answer next day from the key which he kept at home. At 11 Bain left school to become errand boy for an auctioneer; at 13 he became a weaver. No doubt his growth was stunted by the poverty of his childhood, for in later years he was punningly described as a “wee vir.” Avid for scientific knowledge, he struck up friendship with an eccentric watchmaker who was something of an amateur scientist, and with the sons of a blacksmith who owned an English translation of Newton’s *Principia*. There were two colleges in Aberdeen, one founded in the fifteenth century and the other in the sixteenth, and several decades later the merger of these would form the University of Aberdeen. However, they were beyond a weaver’s horizon. For a working man, the only open road to learning was the Mechanics’ Institution,

forerunner of the public libraries. Only a decade after he became a weaver, in an early essay which I shall soon quote to other purpose, Bain wrote these lines:

- In monotonous employments which use the hands and not the head, there should be a separate provision for the head. One obvious provision is, knowledge of all sorts, and the associations and hopes connected with its acquisition. . . . When we think upon the needs of all classes of society, and the small provision made for them, we are forced to assert that in one sense the mind of man, the greatest thing in the world, is among the least attended to. (Bain 1842, p. 64)

When Bain was 17, a chance encounter suddenly opened new doors. A minister, who heard him conversing with a bookseller, urged him to seek admission to college, told him of the tempting possibility of prize stipends, and offered to help prepare him by correcting his Latin exercises. Bain had made a start on Latin, by teaching himself to read the *Principia* in the original. During the next few years, Bain wrote prize papers, tutored, served as substitute schoolmaster, kept the accounts for the Mechanics’ Institution, catalogued its library, gave courses in its mutual instruction program, and graduated at the top of his class, although he had to share nominal honors with the invalid son of a professor.

His search for literary work then brought him into correspondence with John Stuart Mill, who at once recognized a kindred spirit. Both men were products of atypical educations, but one was a hothouse product, while the other had, one might say, scratched his learning out of crevices in the cobbled streets of Aberdeen. By different routes, each had attained an open mind, but years later Bain (1882) wrote that there was one prejudice that Mill had received from his father and from which he could never free himself, despite all evidence: the belief that all men are essentially equal in innate intellectual potential. Bain’s experience had taught him that *that* was a delusion.

Since Bain did not dissemble his loss of religious faith, any worthwhile academic employment was closed to him in the years when he most needed it. His passion was psychology, but he earned a precarious livelihood by writing popular articles on a wide variety of scientific subjects. Bain was no mere hack in the

natural sciences. For example, he concluded from watching a blacksmith at work that kinetic energy can be transformed into heat. (Unfortunately, the paper on heat which he read to the Aberdeen Philosophic Society early in 1843 was not published). He served for a while as secretary to the Sanitary Commission for metropolitan London, during a severe epidemic of cholera. Amid such activities the psychology took shape, so that it was complete in outline and in most of its substance before he ever had a chance to teach the subject. That chance came with the creation of the Bedford College for Ladies, in London, but even there he had to content himself with teaching physical geography in the first year of his appointment, and got to teach mental philosophy only in the second. Bain was indeed “dogged and persistent.” If he were not, we should never have heard of him.

We shall look first at some of Bain’s central ideas. His key concept, of course, is spontaneity. Using the terminology which Skinner has given us, we may say that Bain rejected the account of behavior as all elicited, which is what a pure associationism comes to, and insisted instead on the importance of spontaneously emitted acts. In his words, “muscular action may, and does, arise from purely internal causes, and independent of the stimulus of sensations.” However, almost 10 years before he arrived at this formulation, we can see the *anlage* or disposition which made that development well-nigh inevitable, in the youthful essay which has already been mentioned. He had been offered the opportunity to review a book titled *Home Education*, which dealt in part with the educational value of children’s toys, and he seized this as a chance to illustrate the importance of similarity in thinking, which was a pet enthusiasm of his. But the resulting essay is even more remarkable as displaying how Bain’s own energetic nature led him to include action as well as thought within the scope of his work. Here are a few sentences culled from 15,000 words:

- The passion for handling is not duly appreciated. . . What utter nothingness is there in the mere sight of an ancient sword; the delight comes of unsheathing and sheathing it with our own hands, and going two or three times through the manoeuvres of fencing, stabbing, and amputating with it. . . When a companion standing beside us has a curiosity in his hand whose

wonders he is relating aloud, the cry is, ‘Let me see it, let me see it,’ from those looking on all the time at the full stretch of vision; but the cry means, let me handle it. . . With a stout stick in a road well grown with weeds, no one’s mind need come to a stand. . . It is utterly impossible to lounge, even for a short time, in an artisan’s shop, without setting ourselves to work on his tools. . . We would fain hope that, at no distant time, it will be considered as barbarian cruelty to seat a person down in a naked lobby, beside a bare marble table, without one thing that he can take in his hand. (1842, pp. 52, 60, 61, 64)

It is all witticism, but there is an earnestness beneath it, and the article ends with a program and a promise:

- Having now had occasion to labour in a region of the human mind neglected by our written mental philosophy, we may remark on that science, that it will require to proceed a little farther into the minute anatomy of human life than it has ever yet done. . . No novelist, not even Dickens, has done full justice to the toy principle; and no one ever will until he conceive it aright as a principle. But let anyone first learn the principle, and then proceed to study life in search of manifestations of its workings, and we fear not to say, that he will find ten times as many as have ever yet been recorded, besides obtaining a more exact account of each. (pp. 64–65)

What Bain here called the toy principle, from the almost accidental circumstance of the nature of the book he was reviewing, he explicitly conceived at that time only as the principle of similarity in thinking, but it is linked intimately with an emphasis on the internal drive to activity, which ultimately would be expressed in the doctrine of spontaneity.

Bain’s concern with activity led him also to emphasize the newer physiological foundation of thought and behavior. The volume on *The Senses and the Intellect* had a short introductory chapter, perhaps 3,000 words, followed by a 20,000 word chapter on the nervous system. This became so much the model for later writers that we are in danger of forgetting that it was an unprecedented innovation. How great a departure it was may be judged by comparison with such books as Lotze’s (1852) *Medicinesche Psychologie*, Holland’s (1852) *Chapters on Mental Physiology*, Spencer’s (1855)

Principles of Psychology, and Laycock's (1860) *Mind and the Brain*. Even Wundt's (1863) *Vorlesungen zur Menschen und Thierseele* gave no attention to neuroanatomy or neurophysiology, except for a discussion of the schema of reflex movement in the fourteenth lecture. Yet Bain (1855), in 1855, gave a detailed account of the plan and finer structure of the nervous system, as far as it was then known. The innovation proved influential. Spencer adopted the same plan for his second edition, in 1870. In 1874, Carpenter (1874) used it in his *Principles of Mental Physiology*. Most notable of all, Wundt (1873), who meanwhile had become acquainted with Bain in the second edition, followed this plan in his *Grundzuge der physiologischen Psychologie*. Wundt, unlike Bain, had his physiology at first hand, but Bain achieved a more successful integration of neurophysiology with the topics of later chapters. The reason for this is Bain's peripheralism, which is another expression of his concern with action. Bain's chapter on the nervous system ended with a statement that "we cannot separate the centres from the other organs of the body that originate or receive nerve stimulus. The organ of the mind is not the brain by itself; it is the brain, nerves, muscles, and organs of sense. . . For although a large part of all the circles of mental action lie within the head, other indispensable parts equally extend throughout the body" (1855, pp. 60–62). In the second edition, the viscera were added to this inclusive organ of mind! More than half a century later John B. Watson wrote, with his usual disregard for historical precedent: "Why in psychology the stage for the neural drama was ever transferred from periphery to cortex must remain somewhat of a mystery. . . When the psychologist threw away the soul he compromised with his conscience by setting up a 'mind' which was to remain always hidden and difficult of access" (Watson 1914, pp. 19–20). But Bain is the clear root of behaviorism's peripheralism.

Bain is credited with having carried the association psychology to its highest development. More remarkable is the fact that this achievement was coupled with repeated insistence on the limitations of association psychology. This appears most clearly in the notes he wrote for the 1869 reissue of James Mill's *Analysis of the Phenomena of the Human Mind*. For example: "It is overrating the influence of association to make it a chief element in the pleasure of intoxicating

stimulants, or in the wretched feelings of diseased digestion" (note 17). Or this: "Our overweening tendency to anticipate the future from the past is shown prior to all association . . . It does not make belief, it conserves a pre-existing belief" (note 103). Or this: "The mere fact communicated to us, on a few occasions, that ghosts appear in the dark, and sometimes perform dreadful deeds, would not by force of association alone produce all that unnerving effect which children and weak or superstitious persons are liable to when, at night, exposed in a lonely place, or passing a Churchyard" (Vol. II, note 53). And as a last example: "On no reasonable and candid calculation, is the association strong enough to account for the intensity and diffusion of disinterested impulses as actually found among mankind" (Vol. II, Note 53).

The force of these instances would be greater if we could take time to give the arguments supporting these conclusions. But these fragments suffice to make our point: Bain was not prepared, as the Mills were, father and son, to explain all things mental by association. He used the principles of association more effectively than any of those who preceded him, but he did not expect it to unlock all psychological riddles. And by this contention for the "intrinsic efficacy" of primitive expressions of emotion he places one foot in the nativist camp alongside the followers of Thomas Reid.

Bain is also credited with introducing the concept of parallelism with regard to the mind–body issue. Actually, his concern in writing *Mind & Body* was not metaphysical, but antimetaphysical: he wished to demonstrate a connection so close that there need be no hesitation in using physiological data to interpret mental phenomena. He contended, therefore, for a double-aspect view according to which "all mental facts are at the same physical facts" (p. 133) which enter into a causal sequence through their physical aspects. It was just enough metaphysics to defend the physiological foundations of his work, but it did not imply that all physical facts have their mental aspects, and he explicitly rejected the notion that the mind might "make use of" the brain for its expression.

So much for Bain "in general." We are ready now to start quarrying, that is, to dig out some of Bain's many anticipations of later theories.

One of the most striking of these anticipations is the assertion that tactile pleasure is the primitive basis or

the affectional bond between mother and child. This idea was not developed in the first two editions of his work. Although he recognized that “there is a peculiar region of the body that is related to tenderness,” (1859, p. 96) including the breast, neck, mouth, and hand, he attached no special importance to this. Apparently it was in the process of annotating James Mill that the full importance of what we now call “contact comfort” was impressed on Bain, as a reaction against Mill’s cold analysis of the origins of family feeling through association. Bain rejected that analysis as “scarcely adequate to represent the reality” and he went on as follows:

- The case of greatest moment . . . is the contact of one human being or animal with another; such contact being the physical element in the tender as well as in the sexual affections. There is a combination of tactile sensibility and warmth in this instance, each counting for a part of the pleasure. The influence is well enough known as experienced among human beings; but the sphere of its operation in animals has been imperfectly explored.

If we observe carefully the first movements of a newborn animal, a mammal for example, we find that the guiding and controlling sensation of its first moments is the contact with the mother. In that contact, it finds satisfaction and repose in separation, it is in discomfort and disquiet. Its earliest volitions are to retain and to recover the soft warm touch of the maternal body. When it commences sucking, and has the sensation of nourishment, a new interest springs up, perhaps still more powerful in its attractions, and able to supersede the first, or at least to put it into second place; yet, during the whole period of maternal dependence, the feeling of touch is a source of powerful sensibility both to the mother and to the offspring. Among animals born in litter . . . the embrace is equally acceptable among the progeny themselves. The sensual pleasure of this contact is the essence, the fact, of animal affection, parental and fraternal; and it is the germ, or foundation, and commitment of tender affection in human beings.” (In Mill 1869, V. I, Note 12. See also V. II, Note 44; also Bain 1868, p. 168, 1875, pp. 126, 140)

Then comes this extraordinarily insightful statement: “It is the experience of this agreeable contact that prepares the way for a still closer conjunction

after the animal reaches puberty.” Thus, with only the farmyard for laboratory, Bain anticipated many of the important aspects of Harlow’s findings. However, it was William James, not Bain, who anticipated the design of the original Harlow experiment, in his caustic comment that “Prof. Bain does not explain why a satin cushion kept at about 98°F. would not on the whole give us the pleasure in question more cheaply than our friends and babies do” (James, 1890, v. 11, p. 552 n).

Bain’s emphasis on the role of tactile pleasure in promoting affection is one expression of the peripheralism which we previously discussed. Another is his position regarding the necessary participation of bodily structures in all emotional behavior. This was so important to him that it could not wait for his second volume, and he introduced it into his discussion of the Senses, in a footnote:

- The expression I look upon as part and parcel of the feeling. I believe it to be a general law of mind. . . that along with the fact of inward feeling or consciousness, there is a diffusive action or excitement, over the bodily members. . . According to this view, every variety of consciousness ought to have a special form of diffusive manifestation.” (1855, p. 86 n)

Here are a few sentences from his preliminary statement:

- The fundamental proposition, respecting emotion generally, may be expressed in these words: The state of Feeling, or the subjective consciousness which is known to each person by his own experience, is associated with a diffusive action over the system, through the medium of the cerebral hemispheres. In other words, the physical fact that accompanies and supports the mental fact, without making or constituting that fact, is an agitation of all those bodily members more immediately allied with the brain by nervous communication. . .

It is the common expression even with those who give full credit to the concurrence of the brain in every mental experience, that the brain is alone concerned, or that the agitation, whatever it may be, is confined to the encephalic mass. To this view I oppose the doctrine of the participation of the secreting organs in the circle of effects. . .

The emotion of Fear, for example, would not have its characteristic mental development if the currents from the brain to the moving organs and viscera were arrested. What we take merely as signs of the emotion are a part of its essential workings, in whose absence it would be something entirely different. (1859, pp. 5, 10)

This was published a quarter of a century before the earliest comparable statements by James or Lange. Bain does not reduce the emotion to peripherally aroused sensations, as James would do, but limits himself to saying that peripheral involvement is an essential component. This made him more correct, as we now know, but less eligible for quotation in the intervening years during which James' theory had serious defenders.

Another important application of the principle of peripheralism linked speech and thought. "In speech," Bain wrote, "we have a series of actions fixed in trains by association, and which we can perform either actually or mentally at pleasure, the mental action being nothing else than a sort of whisper, or approach to a whisper, instead of the full-spoken utterance" (1855, p. 341). Ferrier (1876) cited this passage when he presented his own theory that thinking is speech with the movement inhibited. Ferrier was of course acquainted with the intervening work of Sechenov (1863a) on inhibitory centers, but he was probably not aware of the *Reflexes of the Brain* (Sechenov 1863b), with its now famous phrase: "A thought is the first two-thirds of a mental reflex." John B. Watson, who is usually credited with originating the idea of thinking as implicit speech, undoubtedly read both Bain and Ferrier.

We turn now to a group of what may be called cognitive theories. The first of these represents a transition, because it still affirms the importance of action to thought. This passage is from Bain's chapter on Belief:

- While, therefore, action is the basis, and ultimate criterion as of Belief, there enters into it a necessary element some cognizance of the order of nature, or the course of the world. In using means to any end, we proceed upon the assumption of an alliance between two natural ~acts or phenomena, and we are said to have a trust, confidence, or faith, in that alliance. An animal, in judging of its food by the mere sight, or in going to a place of shelter, recognizes certain coincidences of

natural properties, and manifests to the full a state of belief concerning them. The humblest insect that has a fixed home, or a known resort for the supply of its wants, possesses the faculty of believing. Every new coincidence introduced into the routine of an animal's existence, and proceeded on in the accomplishment of its ends, is a new article of belief. . . . As the intellectual functions are developed, and become prominent in the mental system, the materials of belief are more and more abundantly reaped from their proper field; nevertheless, we must never depart from their reference to action, and the attainment of ends, otherwise they lose their fundamental character as things credited, and pass into mere fancies, and the sport of thinking. (1859, pp. 570–571)

It is the same view with which Tolman (1932) startled American behaviorists, when he introduced cognitive elements as hypothetical constructs in his discussions of animal learning. "Belief" demonstrated by "using means to any end" – what is this but "means-end expectation"?

Somewhat related to this concept of belief resting on observed coincidences in nature is the concept of discomfort arising from an awareness of contradictions. This theory grew out of Bain's own strong intellectual motivation – the force which propelled him through years of self-education, and later kept him from gaining coveted university posts because he could not pretend to beliefs he did not hold. In his *Autobiography*, he recalls how as a young boy he had "a strong sense of contradiction when varying statements could not be reconciled. From my earliest consciousness, I had this peculiarity to a degree beyond what I could observe in those about me. . . . Time only increased the disposition" (1904, p. 12). It led him to abandon all religion, which cost him more than one hoped-for appointment. And it led to this statement of the contrast between intellectual emotions. The pleasure that attends discoveries of unanticipated similarities and the distress which is an effect of perceiving contradiction:

- The labour of intellectual comprehension is reduced by every new discovery of likeness; and the first feeling of this gives a rush of delight, the delight we feel when we are relieved of some longstanding burden, or discharged from a laborious obligation. If the effect is

to solve an apparent contradiction, there is the same gladdening reaction from the depression of embarrassment. . .

Contrary statements, opinions, or appearances, operate on the mind as a painful jar, and stimulate a corresponding desire for reconciliation. . . Any strong emotion is sufficient to make the untutored mind swallow a contradiction with ease; but they that have been accustomed to sift opinions, and reject the untenable and contradictory, reel an intellectual revulsion when conflicting doctrines are propounded. This intellectual sensitiveness usually leads to the abandoning of one of the contraries, or else to a total suspension of judgment, that is to say, a repudiation for the time of both the one and the other. As a spur to the volition, therefore, no motive is stronger in the mind of the intellectual man than the pain of inconsistency. (1859, pp. 201, 205)

This is a clear statement of the theory of cognitive dissonance as a motivating force, although it is confined to one area, and not generalized as Festinger would do. Indeed, you have perhaps noticed by this time that Bain's theories are characteristically what have been called mini-theories, which are advanced to explain phenomena within a fairly restricted area. Perhaps because of his strong sense of contradiction, he does not succumb to the temptation of developing them into sweeping generalizations.

The obverse of this sensitivity to contradiction was Bain's emphasis on association by similarity. It was perhaps the point from which his interest in mental science began, for the *Autobiography* recalls that when Bain was barely 20, before he had had any course in mental philosophy, he gave a lecture on "Inventive Genius" to the Mechanics' Institution, and he adds: "I doubt not, the Law of Similarity, as far as then developed, had a leading place" (1904, p. 69). Of course, there was no need to invent the principle of similarity, known since Aristotle, and Bain had met it in his independent reading of Thomas Brown. He was then already in a sense an addict of that "rush of delight" which he experienced in discovering unexpected likenesses, and he seized on this principle with enthusiasm. Because Bain is commonly called a follower of J. S. Mill, and Mill is usually credited with reviving the principle of association by similarity, it is necessary to point out

that Bain's commitment to the importance of this principle in all creative intellectual work not only existed before he met Mill, but also long before Mill had written on this topic.

Let us turn now from the intellectual to the more purely motivational. Bain of course developed rather fully, as any industrious associationist would, the whole question of derived social motives. It is therefore not surprising that he should have arrived at a clear anticipation of what Gordon Allport (1937) called the "new principle" of the functional autonomy of motives. Bain wrote:

- It is well known that many things sought, in the first instance, as means, come, at last, to have a force in themselves, without any regard to those ulterior consequences, but for which they would never have been taken up. . . . The keeping of accounts is a common instance. This being an operation of trouble, we should never enter upon it, except for the facility conferred thereby upon our solid transactions. . . . Experience shows us that account-keepers are not always ready to abandon their operations, because there is no longer any real occasion for them. It is evident that a special liking for the machinery itself has been gradually contracted. . . . The avidity for the means is, therefore, no longer an accurate measure of our appreciation of the ends. (1859, pp. 429–430)

The illustration is evidently drawn from Bain's personal experience. It was as secretary to the Mechanics' Institution that he had his first experience in keeping accounts, and this discussion testifies that his interest in similar activities persisted. Another example throws some light on Bain's attitude toward experiment. He speaks of "the acquired fondness for experimental manipulation, beyond all question the greatest source of knowledge of nature. We constantly see the practitioners in this art spending their time in securing a precision irrelevant to the case in hand; a failing, no doubt, on virtue's side, but still indicative of an undue attachment to what only of the nature of means" (p. 430).

We can look at the functional autonomy of motives as only a special case of the functional autonomy of any organized response mechanism, which has one important expression in the principle of spontaneity. It also appears in many compulsive acts, which are so often

mentioned in Bain's writings that one cannot escape the feeling that he must have been himself quite compulsive. He writes: "There is such a thing as being laid hold of, through a sort of infatuation, by a feeling that in no way contributes to our happiness. We may be unable to discard from our thoughts the image of a person that we hate; or we may be goaded by a pursuit merely because we cannot shake ourselves free of a certain train of ideas. The fascination of a precipice, or of a serpent, belongs to this species of emotional influence" (1859, p. 35).

Another example, among many: "There is a standing mental determination, whereby all ideas tend to work themselves out into full actuality; a power that the will and other influences are constantly employed in checking" (1869, p. 384).

This brings us to the problem of motivational conflict. Bain discussed it in terms which anticipate much of the content of the related Freudian concepts of the ego, the reality principle, and the superego.

In the conflict of opposite motives, it is extremely common to have one feeling in the actual opposed to another in the idea. This is the case when present justification is restrained by the consideration of remote consequences. In order that the dread of the future may prevail over the present, it is necessary that the intellectual hold of the absent evil should be sufficient to keep alive the volitional spur belonging to the reality. Thus, it is that what is termed self-control, prudential restraint, moral strength consists in the intellectual permanency of the volitional element of our feelings (1859, p. 41).

In dealing with the problem of a supposed moral sense, Bain explains that this sort of "prudential restraint" is not a sufficient foundation for what is called conscience. He rejected both the traditional view of conscience as based on reason and the then popular view that it was based on an independent faculty, and he undertook to show that it was shaped by the early experience of external authority. In fact, he traced its development through stages which are strikingly parallel to those in Freudian theory of the growth of the superego.

- Conscience is an imitation within ourselves of the government without us; and even when differing in what it prescribes from the current morality, the mode of its operation is still parallel to the archetype. . .

The first lesson that the child learns as a moral agent is obedience, or acting according to the will of some other person. . . The child's susceptibility to pleasure and pain is made use of to bring about this obedience, and a mental association is rapidly formed between disobedience and apprehended pain, more or less magnified by fear. . . As the child advances in the experience of authority, the habit of acting and the dread of offending acquire increased confirmation. . . New elements come to be introduced to modify this acquired repugnance to whatever is prohibited by parents and teachers, and others in authority. A sentiment of love or respect towards the person of the superior infuses a different species of dread from what we have just supposed, the dread of giving pain to a beloved object. Sometimes this is a more powerful deterring influence than the other. . . When the young mind is able to take notice of the use and meaning of the prohibitions imposed upon it, and to approve of the end intended by them, a new motive is added, and the consequence is then a triple compound, and begirds the actions in question with a threefold fear; the last ingredient being paramount, in the maturity of the sympathies and the reason (1859, pp. 315–316).

A topic of limitless discussion has been whether the hostility which men display toward one another expresses an innate disposition, or results from social influences. Bain, as much a nativist as an associationist, set himself against the tide of his time, and I suppose of ours as well, by arguing for what he called "pure malevolence."

- The distinctive feeling of anger implies the impulse knowingly to inflict suffering upon another sentient being, and to derive a positive gratification from the fact of suffering inflicted. . . So great is the satisfaction thus derivable from malevolent sympathy, that we oppose it as a consolation to neutralize the original wrong.

What we have really to explain, therefore, is not the fury and vehemence of angry excitement, but the root or origin of the *pleasure of malevolence*, which, however we may disguise it, is a fact of the human constitution. . .

In endeavoring to analyze . . . the pleasure of irascible emotion, the first thing that I would notice is the sort of voluptuous excitement that by general remark

goes along with the infliction of suffering upon sentient beings, or the sight of suffering inflicted. . . . I do not profess to be able to account for a circumstance that seems at first sight anomalous . . . but to omit all reference to it would have left the explanation of the origin of the pleasure arising from malevolence palpably defective. (1859, pp. 165–167)

In describing each emotion, Bain always lists the typical circumstances which arouse it. Among the causes of terror, he lists pain, apprehension of evil, and uncertainties of many sorts. Under this heading there are two items that illustrate Bain's breadth. One example is "the sense of the unstable, or insecure," which is in effect Watson's "loss of support." Another is stated in this manner: "Any breach of expectation eminently discomposing. The whole frame being thrown into a certain attitude for meeting a given effect, there is a violent unhingement caused by the occurrences of something totally different" (1859, p. 75). It will be recalled that Hebb (1946, 1949) based his general theory of behavior in part on observations of how chimpanzees respond with fear to any unfamiliar object or to a familiar object in an unfamiliar setting, such as an arm or head detached from a body. These experiences, he reasoned, conflicted with expectations which might be embodied in stable "cell assembles." For Bain, as for Hebb, the recognition that fear is often based on a "breach of expectation" represents an important departure from associationist or S-R theory.

In the area of temperament, Bain (1861) suggested a classification of men into Active, Emotional, and Intellectual types. He based this scheme on the "three-fold division of mind into Emotion, Volition, and Intellect." Bain's categories have many points of agreement with Sheldon's (1942) somatotonic, viscerotonic, and cerebrotonic types. In Bain's treatment, although members of the first type are described as often muscular, they need not always be so, because their disposition to activity arises more from nervous than from muscular energy. He also introduces an interesting distinction in this type between dispositions to quickness and to persistence. Persons of the emotional type are described as having "a physical constitution formed for emotion, and not infrequently marked by the exterior characteristics of a rounded and full habit of body, a constitution apparently of great vigour in the

secreting organs, and less inclined to muscularity" (pp. 205–206). Physique does not enter into his description of the intellectual type, nor does the behavioral description include that element of defensiveness which is so strong in Sheldon's cerebrotonia.

My last example of Bain's anticipations of later psychological theories is perhaps the most interesting of all. Bain was by far not the first to apply the principles of association to actions as well as ideas: nearly for one, and others less well known before him, had done that. But Bain recognized that something more than association was needed, and he mixed three ingredients into his theory of learning, or, as he expressed it, that "process of acquirement in the establishing of those links of feeling and action which volition implies" (1855, p. 293). These are: first, spontaneity, or lithe instinctive germ of volition"; second, "trial and error"; third, an effect resulting from the consequences of the act. His first statement of this theory included most of the essential elements of a reinforcement theory of learning, although the neglect of positive reinforcement constituted a serious flaw.

- If, at the moment of some acute pain, there should accidentally occur a spontaneous movement, and if that movement sensibly alleviates the pain, then it is that the volitional impulse belonging to the feeling will show itself. The movement accidentally begun through some other influence will be sustained through this influence of the painful emotion. Once assume that the two waves occur together in the same cerebral seat – a wave of painful emotion, and a wave of spontaneous action tending to subdue the pain – there would arise an influence out of the former to sustain and prolong the activity of the latter. . . . This, as far as I can make out, is the original position of things in the matter of volition. (1855, pp. 294–295)

The last sentence betrays Bain's awareness that something essential is missing from this account. Nevertheless, in 1859, the same theory was affirmed with greater confidence, and in memorable phrases:

- It is the original property of our feelings to prompt the active system one way or another; but there is no original connexion between the several feelings and the actions that are relevant in each particular case. To arrive at this goal, we need all the resources of

spontaneity, trial and error, and the adhesive growth of the proper couples when they can once be got together. The first steps of our volitional education are a jump of spluttering, stumbling, and all but despairing hopelessness. Instead of a clear and distinct curriculum, we have to wait upon the accidents, and improve them when they come. (1859, p. 343)

This theory rests on two principles that are essential elements of Darwin's theory of evolution, as stated in that very year: spontaneous variation, in this case of behavior, and the selective value of success. That we must "wait upon the accidents, and improve them when they come" is also the basis of behavior modification as it is practiced today. What was lacking was a convincing rationale for the selective influence of success. Six years later, Bain (1865, still long before Morgan (1894), told how his dog, Tony, accidentally learned to lift the gate latch while sniffing excitedly at the road) shifted his emphasis from pain to pleasure as the reinforcing influence, with reduction of pain being viewed as the equivalent of pleasure. After arguing that pleasurable experience serves to augment the vigor of muscular actions, he goes on:

- But suppose now that the movements arising out of mere physical exuberance, should be accidentally such as to increase the pleasurable feeling of the moment; the very fact of such increased pleasure would imply the other fact of increased energy of the system, and of those very movements then at work. The pleasure would in this way feed upon itself, and we should have something substantially amounting to volition. Spontaneity, or accident, has brought certain movements into play; the effect of these movements is to produce a burst of new pleasure; but we cannot induce pleasure without inducing new energy to the physical system, and therefore to the members acting at the moment. So long as these movements add to the pleasure, so long they add to their own stimulation . . .

Before producing actual instances, let us complete the general statement by supposing the opposite condition, that of pain. Let movements be commenced as before, through the spontaneous energy of the healthy system, but let these movements occasion a feeling of pain. In doing so they occasion also . . . an abatement of the vital energies, which . . . brings them more or less to a stand-still. . .

A third case, of equal, if not greater, frequency in animal life, is the following: A creature is in pain, or under a depressing condition of mind; the direct consequence, or natural accompaniment, is a lowered state of the vital energies. Nevertheless random movements are still performed; the spontaneity may not always be exhausted; and perhaps the pain has produced that other effect of spasmodic irritation of the nerves. At all events movements occur; the limbs are thrown about, the head is tossed from side to side, and so forth. Now, let the pain instantly cease. Mentally, the result is a great reaction, in fact a burst of pleasure; physically, there concurs the usual elation of the system, moving members among the rest. The movements that were going on when the pain ceased, receive a sudden accession of power . . . and are made all the more energetic. (Bain 1864, pp. 307–309)

Thorndike (1911) varied this statement with a hypothesis that satisfaction and annoyance exercise positive and negative influence, respectively, on the growth of synaptic endings in use. He not only failed to credit Bain with an assist, but he later listed Bain as one of half a dozen men who "seemed to me to give wrong answers, more often than to verify or extend work which seemed sound" (Thorndike 1930, p. 268). But the other men on that list were born, on the average, 34 years after Bain, and one wonders whose work Bain might have been expected to verify or extend. Because Bain was so much ahead of his time, and because he has been read chiefly in later editions of his works, we tend to lose perspective on his place in history. For example, Boring says that "his importance is partly due to his longevity" (Boring 1950, p. 276). It is true that despite poor health Bain lived to be 85 but his chief works were written by the time he was 40, and everything quoted in this paper (except the bits of autobiography) by the time he was 50, which still 5 years before the appearance of Wundt's *Physiological Psychology*.

How was it possible for one man in the mid-nineteenth century to anticipate essential features in the systems of Freud, the father of psychoanalysis, and Watson, the father of behaviorism – of Allport, who scorned a nomothetic science, and Sheldon, the apostle of types – of Thorndike, the connectionist, and Tolman, the cognitive behaviorist? And how was it

possible for psychologists to overlook these and other theoretical contributions, while they readily accepted the assessment of Bain as a writer of great industry but little genius, an expositor but not a discoverer?

Surely one essential part of the answer is that Bain could do all this because he had no thought of system, but only of facts and their implications. Thus, he succeeded in escaping the rigidities of associationism while retaining its strengths, opening the way to a many-sided science. Spencer (1904) in *Autobiography* tells of his surprise that Bain was not offended by his unfavorable review, and states that he never knew another man so totally devoted to the search for truth. This uncompromising intellectual honesty never allowed Bain to present man simpler in theory than he was in observation. Therefore, he did not offer one of these grand syntheses which create enthusiastic followings, but which are always achieved by at least unwitting suppression of unpleasant inconsistencies. The only “system” he acknowledged was what he called the “natural history method,” that is, reliance on observation and distrust of a priori arguments, and the theories he formulated may fittingly be called mini-theories, because he did not attempt to generalize them beyond the field of observation which gave rise to them. On the other hand, these contributions were undervalued because psychology until recently had an adolescent fascination with system, and it is only as an expression of filial respect that American psychologists have condoned the lack of it in one man, their parent figure William James.

This fascination is not just a residue from the time when our philosopher forbears thought man was created according to a divine scheme. The roots lie deeper, in our innate perceptual dispositions, partly in that very “rush of delight” which we feel at the discovery of likeness and simplicity in nature, and which we are always tempted to enjoy at the expense of truth. The approved defense against such trifling the law of parsimony, but that law has many loopholes, and there are many examples in history of how it has been invoked to spare us the necessity of acknowledging the full complexity of the phenomena with which we deal. Scientists study the most complex phenomena in the universe, and esthetic simplicity is a self-indulgence which we should not carry to excess.

I say all this with diffidence, partly because my very best friends deplore the growing disregard for system, and partly because whenever I voice my distrust of the law of parsimony, the debate is likely to turn on a matter of semantics. So let us return to bedrock. Whether you are for system or against it, I would nevertheless urge on you Mill’s advice, that you take the time to explore this now almost abandoned Aberdeen quarry. There are a good many solid paving blocks strewn about, and here and there I do not doubt there are some fine building stones still waiting to be uncovered. It would be surprising you do not find something you can put to use, under any system. Of course, there are no monoliths, and for anyone who supposes human behavior is monolithic it may be a waste of time.

Bain wanted no epitaph, and only his books for monument. If we sought an epitaph, we might find it, surprisingly, in two lines by William Blake. Surprisingly, because Blake after all is a mystic, but in the lines I quote he was not expressing his own views but putting words into the mouths of the deists whom he despised. For them, he spoke thus:

- Art & Science cannot exist but in minutely organized particulars, And not in generalizing Demonstrations of the Rational Power.

(Jerusalem, Bk. 3, 62–63)

I think this accurately expresses the proper aim of science in a pluralistic universe, and as Bain pursued it.

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Psychology of James Rush

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James Rush was born on March 15, 1786, in Philadelphia, the third of 13 children born to Benjamin Rush and Julia Stockton. From 1806 to 1809, he attended medical school at the University of Pennsylvania, and from 1809 to 1811, took his post-medical training at the University of Edinburgh. James then went into private practice and taught, at the University of Pennsylvania, students of medicine in this early part of the nineteenth century. By 1819, he married Phoebe Ann Ridgway, daughter of millionaire Philadelphia merchant, James Ridgway (Bernstein 1974).

The leadership of Benjamin Rush as psychiatrist and politician has received considerable attention, particularly during the bicentennial celebration (Carlson and Wollock 1976). Less well known is his role as a father. This entry focuses on one of Rush's children, his third son, James Rush, who made significant contributions to scientific thought in the mid-nineteenth century.

James Rush, M.D., is best known for his major work *The Philosophy of the Human Voice*, first published in 1827, in Philadelphia. This was a highly original attempt to understand the physical properties of the human voice and how vocalizations are used to express emotions and to communicate ideas. With its emphasis on the actual sounds of speech, Rush's *Philosophy* anticipated some of today's research that use tape recordings and other objective methods for obtaining a precise inventory of the behavioral events during social communication.

The Relationship Between Benjamin Rush and James Rush

Benjamin Rush held James in very high esteem, and letter to James are filled with expressions of affection, concern about his health, and classes of sounds that people communicate with: (1) the "natural or vocal" signs and (2) the "artificial or verbal" signs. Rush was

aware that when a person speaks, these audible signs are rarely produced in isolation but are “united in a single act of expression and employed in every manner of compatible combination” (Rush 1893).

For purposes of analysis, Rush separated the human voice into five attributes which he called “vocality, force, time, abruptness, and pitch.” Using today’s scientific terminology (Ostwald 1973), we would translate these terms as follows:

Vocality – the voice spectrum

Force – vocal intensity

Time – the temporal organization of speech

Abruptness – onset and decay of characteristics

Pitch – intonation or melody of speech

Unfortunately, Rush was severely handicapped by the relatively crude state of the art of speech science in his day. He lamented the fact that most available texts were based on the teachings of ancient Greek and Roman authorities. He wanted to correct their errors by doing a naturalistic analysis of Anglo-American speech patterns, aided by direct listening and auditory analysis of sensorimotor components. Rush was strenuously opposed to an idealistic, “metaphysical,” and theoretical approach to the study of human behavior, but it was not until 1845, after he had already published three editions of the *Philosophy of the Human Voice*, that he was able to return to Europe, where physiological research in phonetics was under way in France and Germany.

In dealing with the verbal signs, Rush eschewed the alphabetic tradition of dividing speech into five vowels and 21 consonants. He described a total of 35 speech sounds, similar to what are called *phonemes* today. Twelve of these he called “tonic” sounds – mostly vowels and diphthongs like /ah/, /ee/, /oo/, etc.; 14 were called “subtonic sounds” – mostly voiced consonants such as /v/, /b/, /z/, etc.; and nine voiceless consonants, /sh/, /t/, /p/, etc., he called “atonic sounds.” In discussing the phenomenon of voice quality, Rush described four ways of speaking: a “natural” voice used in ordinary speech; a “falsetto” voice with breaks and excessively high pitches; “whispering” when the voice is held back; and an “orotund” voice, bombastic and exaggerated, used for oratory.

Quite remarkable for a pre-Darwinian writer are Rush’s ideas about bioacoustical continuity. He felt

that certain aspects of human speech closely resemble the noisemaking of animals. “There is no vowel in the voice of a man that is not heard from some speechless brute, or bird, or insect” he wrote (1893), while at the same time insisting that certain unique properties of human speech separate us as language users from all other forms of life. Only among humans does one observe that “speech is employed to declare the states and purposes of the mind.”

Above all, it was Rush’s wish to show how “the voice must have distinct means or signs” for declaring “our thoughts and passions.” He was determined to find precise relationships between inner psychological states and external social communication. Toward this goal, he postulated a tripartite mental organization in which *thoughts*, or what we today would call the more formal cognitive structures, were supposed to be externalized in the form of vocal signs consisting mostly of simple rising and falling intonations, short intervals, unobtrusive voice quality, moderate degrees of force, and short syllabic time. *Passions*, or what we would call the affective states, are signaled by the use of greater variability of intonation, rhythm, and vocal force. Into an intermediate or overlapping category, Rush placed what he called “inter-thoughts,” expressed in an “admirative” or “reverential” tone of voice with “orotund and a moderate, dignified force.”

Many chapters of *The Philosophy of the Human Voice* are devoted to extremely detailed descriptions of the speed, flow, and rhythm of speech. Rush used numerous examples from poetry, especially Milton’s *Paradise Lost* and also from Shakespeare’s plays. Because of a fear that his research might become a “curiosity only, if it does not lead to some application,” he also gave rules and instructions designed for improving the art of speaking. His thoroughness makes the book seem prolix and redundant, particularly in later editions, with its many footnotes and editorial comments. Some of these are however quite revealing from a biographical viewpoint. For example, Rush recalls his great admiration for the tragic actress, Mrs. Siddons, from his student days in England. He obviously felt at home in the theater, and it is of interest that right after completing his *Philosophy*, Rush wrote and published his own version of the play *Hamlet, a Dramatic Prelude in Five Acts* (Rush 1834).

Rush's auditory sensitivity not only enabled him to describe nuances of vocal behavior in extraordinary detail, but also caused him to resent people who make excessive noise. In a footnote that is prophetic of the problem of noise pollution in our own century, he described "the alarming bells of a whole city at once; the jangling clappers of horse carriages, the ceaseless roar of inarticulate trumpets; the screams of boys; the uproar of a thousand brutal throats; and the cautious absence of a 'non-committal' republican police" (Rush 1893, p. 282).

Not content just to comment on what he often considered to be a misuse of our "natural" vocal abilities, Rush, as he grew older, wanted to go so far as to reform the English language. His father had frequently commented on the importance of proper spelling, punctuation, and grammar, and criticized his children for their errors in writing. The later editions of James' books introduce a new spelling system that eliminates all double letters and other extraneous symbols. Thus we see "curent," "receve," "thot," and many other oddly spelled words. What is more, Rush liked the idea of a double comma to separate embedded clauses and other parts of sentences. He expected the English language to have an "unbounded prospect before it. The unequaled millions of a great continent, into whatever forms of Anarchy, or Despotism, they may be hereafter led – still hold community in the wide and astonishing diffusion of one cultivated and identical speech" (Rush 1893).

One of the more interesting features of *The Philosophy of the Human Voice* is Rush's attempt to utilize musical notation as a way to depict the melody of speech. In this respect his work resembles that of a contemporaneous English author, William Gardiner, whose book *The Music of Nature* was published in Boston in 1838. It too uses musical notation to describe biological phenomena. Rush fully realized the limitations of this method, which nevertheless is still applied today for certain kinds of research in the field of linguistics (Bolinger 1972). A much better method for denoting the sounds of speech, one which probably Rush would have adapted for his book had it been available in his day, is the well-known "Visible Speech" technique developed by Bell Telephone Laboratories (Potter et al. 1966).

James Rush and the Human Intellect

Following the death of his wife in 1857, Rush began work in earnest, work actually begun around 1814, on what was to become his other major accomplishment, the *Brief Outline and Analysis of the Human Intellect*. He wanted to develop the subject of the mind and integrate it with that of the voice, believing that "when we shall have a clear physical history of the mind as we now have of the voice, the two subjects will form the first and second parts, hut not the whole of the physiology of the senses and the brain" (Rush 1865). Rush used the term "mentivity" to refer to thinking, and he conceived of the mind as basically a physical function of the senses and the brain.

One historian (Roback 1952) observed that Rush's "red-blooded temperament and mercurial nature" may have led him to emphasize "the motor phase of the nervous system which had been neglected by the early psychologists," thus crediting him with being the true founder of the "behavioristic" school of American psychology, long before J. B. Watson. But there is a great deal more in this book than the term behaviorism would imply. It contains references to free association, personality styles, social psychology, and what today might be called communication theory (Miller 1967; Ruesch 1975). Indeed, one can take Rush's "voice" and "intellect" as an attempt to formulate a comprehensive statement about human behavior, as observed with scientific detachment in the nineteenth century. There are definite premonitions of present day ideas regarding the special functions of verbal information processing.

Rush maintained the belief, throughout his study of the psychology of language and thought, that the mind basically comprises perception and memory. His conviction led him further to conclude that the manner in which the mind was capable of expression was a part of the function of the mind itself. In an effort to substantiate this theory, he embarked in a course of careful experimentation and observation of vocal expression to establish the relationship between this expression and its apparent complement, perception.

Mental processes, to Rush, are one and the same with physiological sensation and expression. Speech cannot be isolated or (to use a word coined by his father) disassociated from the physiological being or

whole personality. In Rush's system, speech is actually the fifth constituent of the mind itself.

Numerous authors of the period wrote textbooks based on Rush's *Philosophy of the Voice* and dedicated the books to him (Barber 1830; Comstock 1841; Murdoch and Russell 1846). Rush was not pleased, however, with attempts by others to abridge his own work, and he refused to undertake the task himself. There were authors, nonetheless, who were more than pleased to abridge their own work in the same field, men such as Thomas Upham.

Three basic assumptions underlay the system of constituents of the mind according to Rush. First, the mind should be regarded as a physiological operation, as orderly as sensation itself, and as tangible as muscle movement. Rush saw the mind as comprising five constituents, rather than the three which Upham assigned to it.

Second, Rush considered thought and language to be inseparable. For instance, Rush believed that in order to fully understand the mind, it was necessary to show the inseparable connection between thought and language, and the reciprocal relationship that these have upon each other.

Third, the demonstrated interdependence of thought and language within the framework of mind as a physiological phenomenon leads to the conclusion that human communication is an integrated mental and physiological response.

The case of Rush's lack of acceptance is not unique. Another nineteenth-century psycholinguist, Alexander Johnson (1786–1867), similarly failed to attain the recognition that his important contributions would seem to demand (Tweney 1977). The circumstances of both Rush and Johnson raise the question: Why were only certain nineteenth-century theories of language popular and accepted within the scientific community?

The answer seems to be that only those theories of language that were by-products of theories of the mind were popular during the nineteenth century. The major concern of the era was for a systematic explanation of how the mind functions. Theories of language were important to nineteenth-century scholars, but such theories depended for their acceptance largely upon their compatibility within the larger framework of an establishment-approved mental and moral philosophy.

Many variables determine whether or not a particular theory becomes popular. For example, James Rush produced theories of both mind and language, but he still did not gain popular recognition. The major reason for this was that his basic philosophical approach was incompatible with the establishment and its goals. He also published his work on the mind at a time (the last half of the nineteenth century) when the circumstances of newly emerging, popular theories – those of Darwinism (Darwin and Spencer) and the physiology of mind (Laycock and Carpenter), to name two – were working against him. Upham, on the other hand, had published his system of the three-part division of the mind 30 years before, at a time when popular acceptance depended to a large extent on meeting the criteria of a traditional establishment.

The Place of James Rush in the History of the Behavioral Sciences

When Roback (1952) proclaimed James Rush to be “the most original American psychologist of the nineteenth century,” he bemoaned the fact that even the Harvard University Library did not own this man's remarkable books. Fortunately, that situation is now remedied, and excellent facsimile copies of *The Collected Words of James Rush* are now readily available (Bernstein 1974). The four volumes contain important biographical and scholarly notes by the editor, Melvin H. Bernstein, who mentions that “next to Dr. Benjamin Rush (Francis) Bacon was James Rush's greatest teacher.” Bernstein also provides valuable insights into Rush's work habits, his solitary existence, and the manner in which he seems to have used writing as a way of speaking to himself: “Read aloud, Rush's prose has the rhythm (he spelled it ‘rythm’) of an earnest speaker who is determined to indoctrinate the reader.”

James Rush certainly must be included among those who “came after” Benjamin Rush (Braceland 1976) to provide intellectual leadership in the United States. His book about the human voice, though almost forgotten today, had a legitimate place in the teaching of speech and theories before the invention of electronic media to make public elocution easier. For many years, the book was used as a text at Harvard, Yale, Columbia, Princeton, and Brown universities. In spite of his personal eccentricities, which he shared to some extent with his famous father and his psychotic

brother, James Rush was a very practical man. He was a product of what Professor Henry F. May (1976) has called the American era of “Didactic Enlightenment.” This period followed the “European Enlightenment” in emphasizing anything practical over anything abstract and in preferring “useful” arts – engineering, agriculture, and technology – over “useless” speculation in metaphysics and theology. In that respect, one may forgive Rush’s arrogance in claiming that whatever he personally observed to be true must indeed be the *truth*. The principles of relativity and uncertainty, which hopefully guide scientific thinking today, were not yet available in the nineteenth century. James Rush actually felt quite skeptical about the influence which his work might have in the long run, and his notes express both an undue modesty and an embittered sense of hurt pride and a feeling of neglect. As he said in his *Philosophy of the Human Voice* (Rush 1893), “there is a kind of hypocritical compliment always paid to originality, with this inconsistent purpose, that mankind are eager to receive what is new, provided it is told in the old way.”

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Psychology of Religion, History of

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Introduction

Psychologists have always existed, though for most of history they were not known as such. Regarded primarily as philosophers, theologians, and writers, their interest was, in the broadest sense, the human condition. Over the centuries, their insights and understandings metamorphosed into psychology. Given the role of religion in history and society, a psychology of religion was inevitable. The last 200 years have thus witnessed the development of these disciplines. Still, turmoil pervades the latter field and its relationship to mainstream psychology. The following pages detail these issues.

Identifying the Psychology of Religion?

A number of problems plague this realm. For example, the psychology of religion cannot always be easily distinguished from anthropology and sociology. Some psychological historians fail to appreciate psychology’s relationship to religion. For example, Hilgard (1987) suggested an equivalence to the sociology of religion. Most authors of psychological history texts ignore the field altogether. Those who mention it usually do so superficially. Such desultory treatment may also reflect

ambivalence or negativism emanating from psychoanalytic and behavioristic views that tend to be unsympathetic toward religion.

Since rigorous definition of the field has generally been absent, we might initially claim that the psychology of religion studies, religious beliefs, behaviors, and experiences from an exclusively psychological perspective, the goal being an objective scientific understanding, is not a religious one. Though this description is abstractly correct, when operationally characterized, the religious aspect usually requires continuing psychological specification; that is, mystical experience, conversion, prayer, etc. These phenomena are invariably multidimensional. When treated simplistically, they also relate rather strongly to each other. Both of these factors get little, if any, recognition.

The term psychology was associated with religion from the sixteenth to the eighteenth centuries, yet scholars of psychological history offer at best a fleeting glance at religion when origins of psychology are discussed. The same is true of texts in general and social psychology. The relationship, however, of psychology to religion is surprisingly involved. The former has frequently been caught in the no man's land between science and faith. Unfortunately, the psychology of religion sometimes finds a value basis that is less scientific than religious (see especially the nineteenth-century writings of the American clerical psychologists).

A generally accepted argument asserts that no definition of religion is satisfactory to all social and behavioral scientists. Happily, the psychology of religion, even though it has spread its potential to virtually all of the 56 Divisions in the American Psychological Association, must embrace psychology as a science and completely separate itself from religion.

Identifying the Psychology of Religion: Parameters and Concerns

An overview of writing on the relationship of religion to psychology reveals a continuum from what might be termed religious psychology to a strictly scientific-empirical psychology of religion. The first is represented in an extensive literature largely from religious publishers who argue that church doctrines and Scripture preempt psychology in understanding human behavior. Some in the religious establishment

reject psychology. One book explicitly argues that there is a psychological war on religion (Cummings et al. 2009).

At the other end of the spectrum, are religionists who welcome and apply psychological principles and techniques. Though our concern is largely with the history of the former, the latter deals with the application of clinical and counseling psychology to those with psychological difficulties. This work is common found within religious institutions and is the domain of Clinical Pastoral Education and Pastoral Psychology.

Sources of Bias

Historically and contemporaneously, many, if not most, psychologists of religion enter the field with strong religious affiliations and backgrounds. Some received training in seminaries and schools of theology. Not a few have been ordained as clergy (Ragan et al. 1980). The psychology espoused by these scholars may be greatly influenced by such attachments (Wulff 2007). In his *Psychology of Religion*, Johnson (1959) identifies "a church as a corporate society of Christian life, a body of Christ" (1959, p. 279). Such restrictive abstractions along with a religious terminology counter a scientific approach but might be construed as relics of much of American nineteenth-century psychology. For example, John Dewey's (1889) elementary *Psychology* text asserts that "Every concrete act of knowledge involves an intuition of God" (p. 244). In later editions, reference to the deity was replaced by an undeveloped concept of the self. In this literature, much of what is perceived as objective and empirical has introduced notions of "good" and "bad" religion into contemporary psychology of religion research and writing (Kirkpatrick and Hood 1990). Despite his repeated appeals to science and empirical research, Starbuck (1914) claimed that "the psychology of religion sees in the scattered facts of religious experience an evidence that spiritual forces are at work" (p. 6). In other words, a desired scientific psychology of religion is subtly and not so subtly influenced by religious thinking.

A more general biasing factor is the culture in which we live. Ninety-seven percent of Americans claim a belief in God and about two thirds are affiliated with religious institutions (General Social Survey 2008). Even though psychologists as aspiring scientists aim for objectivity, this life-long societal milieu is likely

to find expression, possibly faint and indistinct, but nevertheless present.

A thorough history of the psychology of religion offers many avenues for exploration. These have been analyzed in depth primarily by Jacob Belzen, David Wulff, and Hendrika Vande Kemp. Their writings should be consulted for greater depth, breadth, and detail than can be provided here (Belzen 2009; Vande Kemp 1996; Wulff 1997).

Though not all agree, the history of the psychology of religion has been divided into three periods: The first is roughly bounded from 1880 to 1930, the second ranges from 1930 to 1950, and the third or current version continues from 1950 to 1980 (Beit-Hallahmi 1974; Strunk 1958). A fourth possibility is added here to note the current situation.

Period I: The Founding of the Psychology of Religion in America

Preparing the Way

Beit-Hallahmi (1989) points out that American psychologists were “the pioneers and the leaders of the ‘psychology of religion’ movement” (p. 19). Wulff’s (1997) claim that the “momentum” (p. 25) for a psychology of religion was greater in the United States than elsewhere further suggests that the American setting is a good place to begin our analysis. In the eighteenth century, figures such as Cotton Mather, Samuel Johnson, and Jonathan Edwards maintained the primacy of Christianity in mental philosophy (Fay 1939; Roback 1969). The pace of scientific development quickened during the nineteenth century but clergy still dominated the field in America. Frederick Rauch took the next step with the first book with *Psychology* in its title in 1841. It, however, maintained the primacy of religion. Concurrently, the growing prestige of science transformed the area verbally into mental and intellectual science yet clerical domination continued until shortly after the Civil War. A descriptive faculty psychology backed by Protestant theology ruled the higher learning. Rauch and others of his ilk explicitly denoted mental philosophy and theology to be sciences. A psychology that remained in the service of religion controlled much of education and European, primarily German, developments now appealed to American scholars. New emphases on practical

application, and active mental processes stressing consciousness appeared. Rather than simply accept the established wisdom backed by scriptural authority, the potential of research stimulated a rapidly growing appreciation of laboratory and field study. Even religion could become an object of psychological investigation. This road to the future was, however, to be far from smooth.

Those Early “Giants”

Six scholars stand out in the early phase of the psychology of religion: William James, Granville Stanley Hall, Edwin Diller Starbuck, James H. Leuba, George A. Coe, and James Bissett Pratt. Hall and Pratt studied with James, and Starbuck and Leuba were students of Hall. All came from homes in which religion played a major role. With the exception of James, they were exposed largely to orthodox Protestantism. James’ father, Henry, first identified with a conservative stance but then adopted a Swedenborgian view that allowed more freedom and individual expression. All six converted to liberal religious positions, even to the point of outright rejection of Christianity. Though he wrote in a kindly but firm professional manner, Leuba was most extreme. An argument might be advanced that James showed the most complex, if not ambivalent perspectives and actions toward faith in general. Coe maintained the strongest traditional attachment, yet he too softened his views. At one time or another, philosophy and theology were studied and this influenced their outlooks on psychology. Philosophy opened mental doors to psychology, though initially signs of a religious psychology were present in their approaches to the psychology of religion.

William James

Post Civil War education needed someone to bridge science and philosophy, and William James had the background and interests to accomplish what was required. Though religion was important to him, a liberal focus on spiritual experience was central to his personal faith from the late 1860s to the end of his life (Myers 1986; Richardson 2006). Still, it was his practice to attend early morning services in the Harvard Chapel before going to his classes (Allen 1967).

Scientific interests evidenced during his adolescence were strongly supported by his father in Europe and America. Some of these would now be regarded as basically psychological and biological. This was formally succeeded by the study of chemistry at the Lawrence Scientific School in Cambridge, where he also elected to take courses at Harvard College. After 2 years, with ambivalence, he attended Harvard Medical School but apparently without intending to practice medicine. Darwinian thought appealed to him. By 1867, he declared his intention to study “the nervous system and psychology” (Richardson 2006, p. 86). In 1876, he established a psychology teaching laboratory, however, in 1892 he indicated his dislike of laboratory work and criticized German laboratory experimentation (Allen 1967). Psychological ideas were his forte but philosophy allowed him to speculate in works like *Habit* and *Pragmatism*. James easily applied these notions to religion, hence we read “if the hypothesis of God works satisfactorily in the widest sense of the word, it is true” (James 1890, p. 299). The culmination of James’ philosophy and psychology relative to religion may be found in his most famous and popular effort *Varieties of Religious Experience*. Published in 1902, a 2009 survey of separate printings came up with 187 in English (Meyer 2009). James provided a foundation for the psychology of religion based on an active mind with a Darwinian underpinning. He valued empiricism, emotional and mystical experience, and stressed the importance of religious belief (Thayer 1983). The next stage was activation of research to realize these directions and the task began with James’ student Granville Stanley Hall. Wulff (2007) distinguishes two traditions in the psychology of religion, the interpretive and the statistical-empirical. James represents the former and Hall, the latter.

G. Stanley Hall and His Heritage

Even though Hall was James’ first doctoral candidate in psychology, they were radically different. James was always the thinker; Hall’s greatest strengths were empirical research and professional organization. In later years, he was often acknowledged as the founder or father of the scientific psychology of religion (Pratt 1908; Strunk 1958; Wulff 1997). He also began the study of the life-span development of religious beliefs, behaviors, and experiences. Known for his extensive

work on adolescence, few attend to his scholarly treatment and speculations about old age and death (Hall 1922).

Early in his career, Hall attended Union Theological Seminary, later stating that he deviated markedly from “the rigor of the Puritan faith in which I was reared to complete emancipation from all belief in all forms of supernaturalism” (Hall 1923, p. 422). He was, however, motivated to understand the development and expression of religious faith.

Twice in Hall’s career, he traveled to Germany in order to learn about the experimental psychology of Wilhelm Wundt. Apparently, neither he nor Wundt valued each other highly. Said to have adopted the questionnaire method begun by Galton after one of these trips, he used it to study religious experience, particularly religion in children and adolescence.

In 1904, Hall established *The American Journal of Religious Psychology and Education*, which was renamed *Journal of Religious Psychology* in 1912. Possibly recognizing the paucity of work on religion by psychologists, the journal was subtitled “including its anthropological and sociological aspects.” It was therefore not restricted to work on Christians and Christianity or the Western tradition. Unfortunately, this breadth was not enough to make the journal self-supporting and in 1914, with the death of its editor, publication ceased.

G. Stanley Hall seemed to do everything. Though known as the founder of the American Psychological Association, and its first president, he was also the first president of Clark University, where he established the Clark School of Religious Psychology (Schulz and Schulz 2000). In addition, he began a number of journals in which he and his students published many papers. His writings spanned theology, child, adolescent psychology, old age, philosophy, experimental psychology, many aspects of education, psychological history, race relations, and, of course, the psychology of religion. His final effort in this last area was his 1917 *Jesus, the Christ in the Light of Psychology*, two impressive volumes that interpreted Jesus and his believers in terms of basic psychological concepts. This approach was less than enthusiastically greeted (Ross 1972). Hall’s deviation from Christian orthodoxy resulted in similar recriminations by the cleric who conducted his funeral in 1924 (Ross 1972). G. Stanley Hall set the stage for a modern, empirical, scientific psychology.

Of those who followed in his footsteps, the most noteworthy for the future of the psychology of religion were Edwin Diller Starbuck and James H. Leuba.

The Hall Legacy: Starbuck, Leuba, and Coe

Edwin Diller Starbuck

Trained by both James and Hall, Starbuck took his Master's degree with the former and his doctorate with the latter. Utilizing Hall's questionnaire method, Starbuck studied conversion among over 1,200 Protestants and fixed its origin in adolescence at 16.4 years, (Starbuck 1914). Hall's data set it at 16.6 years (Johnson 1959). In order to understand the "awakening" process, as he often put it, he delved into the feelings, emotions, and motives of his respondents during their childhood, adolescence, and adult years. The book that details this work was the first volume to use the title *Psychology of Religion*. A prolific author of articles in religious, educational, and psychological journals, Starbuck influenced other early psychologists of religion to examine the process of conversion.

James H. Leuba

Like his associates, when young, Leuba joined the church and claimed to have been "deeply stirred by religion." He felt he "retained a sympathetic appreciation and understanding of the religious life" (Leuba 1912, p. 275). As the years passed, he manifested a growing unhappiness with its strictures. Finally, he considered religion irrelevant to living a good life.

Educationally, he joined Starbuck and others who worked under Hall at Clark University. Like Starbuck, he studied conversion but employed an interview method as opposed to questionnaires. This, he claimed, allowed him more flexibility to attain a deeper understanding of emotional-motivational factors underlying conversion. Adopting a strong naturalistic position, he rejected the popular notion of a distinction between a religious and nonreligious consciousness. His learning-cognition stance stressed the role of experience and the likelihood of human error in the beliefs and ideas that people held. A productive scholar, Leuba propounded a hard scientific view of religion. In the preface of a small, tightly written 1921 work on *The*

Psychological Origin and the Nature of Religion, he simply stated "Religion originated in the mind of man." On the last page of this book, he asserts "belief in a God seems no longer possible" (p. 95). Not one to tolerate myths propagated by religion, he rejected notions of immortality and life after death (Leuba 1921). Asserting that a scientific outlook invalidated religious notions, he moved the psychology of religion into the behaviorist mainstream of his time but did so without rancor or hostility (Leuba 1933). In one of his later researches, he showed that among scientists, psychologists and social scientists were in the vanguard of rejecting religious ideas (Leuba 1934).

James Leuba identified strongly with psychology's naturalistic core and his psychology of religion had no place for religious beliefs and explanations that could not be backed by observable evidence.

George A. Coe

George Coe, unlike his predecessors, maintained strong religious commitments yet accepted a more liberal theology. In graduate training at Boston University, initial intentions to enter the ministry were put aside for philosophy and the desire to apply psychology in Christian education. With further study in Germany came a commitment to science, adoption of Darwin's views, and a growing rejection of religious orthodoxy. While teaching at Northwestern University in the late 1890s, he became oriented toward the psychology of religion and wrote on temperament and personality in relation to spiritual expression and mysticism. The roots of an early stress on the self are well explicated in the first decade of the twentieth century and grew further over the next 40 years. Research was not his forte; he was primarily an expositor and interpreter with an appealing writing style. Books such as *The Spiritual Life* and *The Religion of a Mature Mind* freely joined psychology to the concerns of a liberal faith.

Concomitantly, an interest in religious education developed and he undertook an extensive program of writing for psychologists and educators. This resulted in 14 books and over 250 articles. His volume on the psychology of religion went through seven printings from 1916 to 1925. Not narrow in outlook, this tome united psychology with sociology, anthropology, evolution, philosophy, and, one can claim, a liberal Christianity.

Coe was not one to restrict himself and in the course of his later life, he identified with socialist and even communist ideologies. He seemed to be reaching for a harmonious philosophy that joined psychology, social thought, and liberal theology to attain an ultimate goal of social justice.

James Bissett Pratt

The last noteworthy American figure in this early period, James Bissett Pratt studied philosophy under James at Harvard and received his doctorate in 1905. His dissertation *The Psychology of Religious Belief* was published with modifications in 1907. Considered an outstanding work, it went beyond the psychology of religion to include anthropology, comparative religion, and religious history. Pratt goes well beyond what we would regard today as “religious belief.” Despite his frequent use of the word, he samples the entire range of religious attitudes, values, and relationships. Feeling and affect are everywhere in this treatment. One could argue that it displays elements of the modern association of social cognition with emotion (Josey 1927). Pratt also conducted questionnaire research to understand “the relation of argument and unreasoned experience to popular belief . . . as an experience of the presence of God” (Pratt 1908, p. 232). More than a few elements of what is religious psychology are present in his rather less than exacting use of data. A “soft” pattern of inference characterizes this psychology. In addition to having many articles printed in both professional and lay publications, Pratt authored 13 books, and one, *The Religious Consciousness* is regarded as second only to William James’ *Varieties* in representing the central values and concepts of the psychology of religion.

Where *The Varieties* is both philosophically and psychologically creative from the start, in Pratt’s *Religious Consciousness*, the first nine chapters offer an exhaustive overview of knowledge in the psychology of religion. The remaining 11 chapters convey not only what is known but also Pratt’s personal orientation toward the field. Attitude replaces belief and he employs the language of a nascent social psychology while almost desperately trying to maintain reliance on the individual. Since virtually all text authors at this time delved deeply into what we today consider sociology and anthropology, keeping the person in sight

posed a problem. In all of this, Pratt dealt with God belief, immortality, prayer, and mysticism (Ames 1921). Central to this effort is a subjective–objective breakdown, much of which parallels a spirituality – institutional faith distinction.

Though some others might be included in this founding period for the American psychology of religion, those cited above are considered the preeminent scholars.

Period II: 1900–1930

The years from 1900 to 1930 were prolific for the psychology of religion. Psychological professionals heard of it through annual reviews in the *Psychological Bulletin* from 1909 through 1933. The pattern of research begun by Hall was common and the questionnaire reigned supreme. Theory, however, tended to be weak or absent. Many still had the coloring of religious psychology while co-opting the rhetoric of science. Behaviorism was slowly dominating psychology, but Freudianism appealed to a broad segment of the field. The clash between these radically opposing positions is well illustrated in Knight Dunlap’s (1920) *Mysticism, Freudianism and Scientific Psychology*. Though the titular word, psychology, was extensively employed, distinctions between psychology, anthropology, and sociology continued to be vague. Most importantly, however, an objective, human-independent existence for divine beings was not the meat of science for such could not be demonstrated by psychological research and assessment. A positivistic empiricism dominated psychology. By 1930, psychology’s striving for scientific respectability meant a decline for the psychology of religion. As Beit-Hallahami (1974) called it, this was the time for a “fall of a psychological movement” (p. 84). The earlier time was one of “the rise.” As previously noted, not all scholars agree with this assessment (Belzen 2008).

Period III: 1930–1950

The early notables discussed above were now either deceased or advanced in age to the degree that most of their contributions were minor or seen primarily in religious publications. Strunk (1958) tells us that only three new texts appeared up to 1956. Paul Johnson’s 1945 volume was a mix of objective psychology and religious psychological writing. Furthermore, courses

in the psychology of religion were being dropped from college and university curricula. These were increasingly offered in seminaries and schools of theology. Psychoanalytic and clinical psychological approaches were increasingly popular among clergy and much energy went into pastoral training. The field of pastoral care began to develop. Behaviorism was not congenial to ties between religion and psychology and the psychology of religion was viewed in this light. Knight Dunlap's (1946) *Religion and its Functions in Human Life* apparently satisfied psychology's penchant for hard science. The advent of behaviorism further countered the philosophical tendencies of the earlier psychology of religion and demanded a rigorous, research framework to which seemingly objective statistics could be applied. Room no longer existed for theology or a religious psychology. With the current veneration of "hard" science, psychology took an antireligious stance. Among the struggles of a new generation of psychologists interested in the psychology of religion, most noteworthy was Gordon Allport who wrote a small significant work, *The Individual and His Religion: A Psychological Interpretation*. Despite extensive use of religious references and anthropological material, one might suggest it be put in third place as basic reading after James' *Varieties* and Pratt's *Religious Consciousness*. Allport integrated the psychology of religion into the realm of personality and also brought it into social psychology. This reached fruition in 1969 when Dittes described the field in depth in the second edition of the *Handbook of Social Psychology*. Unfortunately, this section was dropped in the third edition; however, the psychology of religion now merited inclusion in the *Annual Review of Psychology* (Gorsuch 1988; Paloutzian and Emmons 2003).

Period IV: 1950–Present

The 1950s revealed a new young breed of scholars interested in the psychology of religion. Texts stressing empirical research slowly began appearing, though those of Johnson (1959) and Clark (1958) still showed religious influences. Each succeeding decade revealed more concern with scientific objectivity. Clinical and psychoanalytic-based volumes also put in an appearance and that by Paul Pruyser (1968) merits special attention because of its strong theoretical emphasis and excellent writing. Volumes on pastoral counseling

became common as seminary education emphasized such work relative to parishioner adjustment problems, particularly those concerned with death, dying, and bereavement. Large compilations of theory and research dealt with all aspects of life-span development. Handbooks, encyclopedias, and dictionaries have continued to be published, some going into multiple editions. A literal flood of such work keeps enriching the field.

Possibly reflecting classical behaviorism and its neo-behaviorist successors, an argument might be advanced that for most of the twentieth-century mainstream psychological publications tended to be wary of submissions that dealt with religion. The pressure, however, of research and writing in the area stimulated the creation of new journals. These initially catered to social science in general but psychology per se was rapidly becoming differentiated from sociology and anthropology. In 1949, the Society for the Scientific Study of Religion was established. Two years later the *Journal for the Scientific Study of Religion* was founded. In 1951, the Religious Research Association was formed and in 1959 it sponsored the *Review of Religious Research*. Despite the fact that the journal *Sociology of Religion* had a long well-regarded history, the new efforts now offered the bulk of contemporary research and writing in sociology and psychology of religion.

Though psychologists of religion continue to publish in the above journals, a desire to "have" their own publications prevailed and in 1991, the *International Journal for the Psychology of Religion* appeared. In its section on "Contributor information," readers are "informed" that this new journal attempted to continue G. Stanley Hall's journalistic effort mentioned earlier. This was supplemented in 2008 by the *Psychology of Religion and Spirituality*, an offering of Division 36, Psychology of Religion, of the American Psychological Association. Slowly but surely, the psychology of religion has been entering the mainstream of professional psychology. This is also evidenced by the increasing appearance of research and theory articles in many of the central journals of the American Psychological Association.

Mention should be made of efforts of religious bodies to develop their own psychological journals. Examples are the *Journal of Psychology and Christianity*, a product of the Christian Association of Psychological

Studies and the *Journal of Psychology and Judaism*, which began in 1976. We should not overlook *The Journal of Psychology and Theology* that has demonstrated considerable breadth in the papers it publishes. These publications largely, but not exclusively, emphasize clinical and pastoral counseling and care concerns. While seeking psychological objectivity, they also include elements of traditional religious psychology.

The psychology of religion has increasingly emulated mainline work with growing sophistication in research design and statistical analysis. Current studies commonly employ multivariate techniques and all forms of Factor Analysis. Journal reviewers and editors demand theoretical foundations for research papers submitted for possible publication. The day has passed, if it ever really existed, that the psychology of religion can be distinguished from psychology, in general.

The Psychology of Religion Outside of the United States

As noted above, the early psychology of religion attained its fullest orderly expression in the United States. With some exceptions, the goal was an objective, scientific understanding of religious thought and behavior, largely relative to conversion and religious experience. When we look to Europe, philosophy and theology plus a more subjective phenomenological stance were common. In contrast to the American situation, relatively little coordination seems to have taken place across national borders until recently (Belzen 1994).

There have been a number of efforts to treat the psychology of religion in different countries. Aletti (1992) focused on Italy; Belzen (1994, 2009) on the Netherlands; Castro, Lafuente, and Jimenez (2009) on Spain; Richards (2009) on Britain; Vandermeersch (1994) on France; and Wikstrom (1993) on Scandinavia. Expanding our horizons, O'Connor (1991) examined Australian developments.

Countries such as Spain, France, and Italy evidenced conflict between psychology and the Catholic Church (Aletti 1992; Kugelmann and Belzen 2009). In some instances, tension and conflict correlated with political forces and cultural contexts. After 1945, differences became less significant as many priests and nuns adopted psychological viewpoints, and courses with a modern psychological orientation were

increasingly given in Catholic colleges and seminaries. This trend was most fully expressed in the United States with the creation of the American Catholic Psychological Association in 1947. In 1976, it became Division 36 of the American Psychological Association, Psychologists Interested in Religious Issues (PIRI), and in 1993, it was renamed Psychology of Religion. The detailed history of this development has been provided by Kugelmann (2009).

Even in societies with many different religious bodies such as the Netherlands, stress was present between psychology and religion. It is not amiss to comment that some conservative Christian evangelical groups in the United States are not comfortable with contemporary psychological orientations in general and certainly relative to the psychology of religion. Overall, however, more and more clergy appear to be seeking advanced degrees in psychology and the psychology of religion, as already commented, continues to move into the mainstream in both the development of psychological theory and research.

Some Limited Specifics

It is not possible in these pages to track fully the history of the psychology of religion in the European nations. A few examples should suffice to give the flavor of these efforts. Nineteenth-century beginnings, for example, were most evident in England and Germany. In many nations, the psychology of religion became a viable realm after the Second World War.

England

Science flourished in Victorian England with Darwin, Huxley, Lord Kelvin, Faraday, and Maxwell among others. One major figure who crossed scientific frontiers into both psychology and the psychology of religion during this period was Francis Galton. Credited with the discovery of various statistical methods and the questionnaire method, he conducted studies of the relationship between piety, prayer, and longevity. Contrary to popular belief, he found that pious people did not live longer than their less religious peers. Furthermore, prayer for the great and famous did not lengthen their lives.

In the early to mid-twentieth century, a few individuals stand out. Evelyn Underhill who Walter Clark (1958) called a "convinced and practicing mystic"

(p. 465) wrote extensively about worship and mysticism. Even though she stressed the metaphysical and tried to be psychologically relevant, her writings do not appear to have influenced the psychology of religion.

Robert H. Thouless, a Cambridge Don and psychologist, was primarily an expositor of the psychology of religion from 1923 to the 1970s. While writing main-line texts in the area plus articles in general and social psychology, he was involved in parapsychology and questions about life after death. A number of similar psychologies of religion texts followed those of Thouless, but research studies were infrequent. This situation has been rapidly changing since 1970 with work tying cognition and social and personality psychology to religious activity and understandings.

Germany

If one nation, or many small nations, manifested images of scholarship in the 1800s, it was Germany and the pre-1870 German states. Here, psychological and social-scientific philosophies dominated the European scene with the likes of Schopenhauer, Hegel, Marx, Herbart, and Nietzsche. German psychological science boasted Helmholtz, Goethe, Fechner, and Wilhelm Wundt. The last was at one time particularly concerned with the psychology of religion (Wundt 1916). Despite his elaborate efforts to provide an individual psychological foundation for personal faith, he wrote most about the collective nature of society and culture. Attempts to make these social referents fundamentally individual in nature were not successful, and today his writings would be consigned to anthropology and sociology.

Despite having come from a conservative Lutheran home, his father being a minister, Wundt moved from this beginning to discuss objectively, the “god idea” (Wundt 1916, pp. xv, 352). He believed that “the god-idea resulted from a fusion of the hero-ideal with the previously existing belief in demons” (p. xv). This was explicitly offered as a hypothesis. Though not averse to using the term, instinct, Wundt avoided it when speaking of the human origins and expressions of gods. He did claim that his folk psychology was based on empirical data but this was countered by Haerberlin (1916) who claimed that it was largely a historical construction. Despite its inclusion of strong evolutionary and developmental content, it has never been viewed as

a theoretical work that eventuated in testable hypotheses. Given its temporal distance from today, *Elements of Folk Psychology* stands as a relatively isolated classic philosophic-social science tome. E. L. Schaub, its translator, called it a monumental work and it probably may remain a thing apart with few connections to the psychology of religion, then and now.

Oswald Kulpe, a student of Wundt's who founded the Wurzburg school, adapted Wundt's introspective method to the study of religion. Proposing a much broader view of what could be studied than his mentor, his experimental psychology became a general psychology that included the psychology of religion (Allik 2007). In like manner, Karl Girgensohn, a Kulpe student and primarily a theologian, introduced questionnaires and other means of stimulating religious thinking in the laboratory. He is credited with establishing the Dorpat school of religious psychology at the university at Dorpat, Estonia. Prior to 1919, for 200 years this was part of the Russian empire; however, religion, education, local governments, etc., were largely controlled by Germans. Wulff (1985) has extensively detailed how the Dorpat school emphasized work in and out of the laboratory on religious experience.

France

Relative to the French experience, Wulff (1997) offers the most balanced view. He discusses religion in psychopathology citing the work of Pierre Janet and Theodule Ribot who dealt with religious symptomatology in individual patients. Vandermeersch (1994) ignores Ribot and emphasizes psychoanalytic thinkers such as Hesnard who confronted Catholic moral theology relative to sex, sin, and guilt. The Vatican became involved and viewed psychology as essentially stressing sexual morality. After a period of questioning and doubt, the Catholic Church approved of psychoanalysis and used it as a basis for pastoral psychology (Vandermeersch 1994).

The controversial psychoanalyst Jacques Lacan found common philosophical ground with Catholicism and focused on mysticism, ego structure, and function relative to religion.

Though French psychologists such as Jean-Pierre DeConchy have written conceptual and theoretical works in the psychology of religion for some years, this subfield of psychology has little history in France.

Belgian scholars such as Antoine Vergote and Andre Godin, all primarily twentieth-century scholars, are treated as inseparable from the French. The same seems to hold true for the Swiss with Theodore Flournoy and Jean Piaget. All made noteworthy contributions to the psychology of religion. Wulff (1997) and Vandermeersch (1994) describe a French psychology with a strong philosophical-psychoanalytic-theological flair far different from that which developed in the United States.

The Netherlands

The Netherlands is a small country, but according to its premier historian of the psychology of religion, Jacob Belzen (2009), it occupies a unique place among all nations in its treatment of this discipline. Though essentially founded in 1957, in the ensuing 50 years, at least ten professorial chairs in the psychology of religion were created. This is hypothesized to be more than in any other country in the world, a believable inference. The psychology established was primarily empirical (Belzen 1994).

Prior to 1957, during the first decade of the twentieth century, there was much awareness of the psychology of religion in Dutch religious circles, especially that of James, Hall, and their students. The field achieved a surprising popularity, and in 1920 an Association for the study of the Psychology of Religion was founded. Still, the psychology of religion remained under the aegis of religion and theology (Belzen 1994, 2009). Belzen (1994) suggested that its existence as a field by itself was a work in progress.

Scandinavia

Scholars in Denmark, Finland, Norway, and Sweden were surprisingly active in the psychology of religion throughout the twentieth century. Wikstrom (1993) and Holm (2004) have impressively detailed these developments since 1901, when the noted Danish philosopher and psychologist Harald Høffding's writings made religion of psychological concern in Denmark. Concurrently, Nathan Soderblom, a Swedish theologian with broad interests in the social and behavioral sciences worked on conceptualizing types of mysticism. In his writings, psychological influences were examined relative to cultural and historical factors. Focusing on

religious experience, he expressed reservations about William James and downplayed Freudian possibilities. His students and successors continued working on these topics through the 1920s. Despite the fact that the psychology of religion adopted psychoanalytic ideas and increasingly attended to psychopathology and psychotherapy, the area remained under the theological umbrella.

The 1930s saw the inclusion of Jungian ideas and the study of hypnotism, suggestion, and yoga relative to psychophysiology. In 1938, a chair for the history and psychology of religion independent of theology was created in Sweden's Uppsala University. This was a first, yet religious forces continued to dominate the social sciences. The ensuing dozen years witnessed greater interest in pastoral work and the ideas of Alfred Adler entered the study of religious experience.

In 1959, the formulation of a role theory by Hjalmar Sunden rapidly stimulated research and remains today possibly the primary foundation for work in the psychology of religion in Scandinavia. Interestingly, it has significance psychologically and theologically. This is a major characteristic of Scandinavian research. It reflects both into the psychology of religion and theology itself (Wikstrom 1993).

Conclusion

History has few limits but almost always requires a restricting focus. In this effort, that aspect of the history of the psychology of religion most emphasized has been empirical research and theory. Clinical psychological approaches have been seriously slighted. Many American and European thinkers have written about analytic approaches, most notably those of Freud, Jung, and Adler and successors such as Fromm and Erikson. More recently, this work has been supplemented by the object-relation theorists (McDargh 1983). Objective empirical testing of these ideas has been rare though they have often proved useful in pastoral counseling and care circumstances. Unfortunately, these topics have also not been treated here. The complexity of the pastoral realm is well demonstrated by the over 1,300-page *Dictionary of Pastoral Care and Counseling* (Hunter 1990).

Simply put, this article is designed to stimulate readers to examine further the history of the psychology of religion by citing its main sources and directions.

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